SAMSUNG

GSM TELEPHONE

GT-P6800

SERVICE Manual

GSM TELEPHONE

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Notice: All functionality, features, specifications, and other product information provided in this document, including but not limited to, benefits, design, pricing, components, performance, availability, and capabiliti -es of the product are subject to change without notice. Samsung reserves the right to alter this doc -ument or the product described herein at anytime, without obligation to provide notification of such changes.

1. Safety Precautions

1-1. Repair Precaution

Before attempting any repair or detailed tuning, shield the device from RF noise or static electricity discharges.

Use only demagnetized tools that are specifically designed for small electronic repairs, as most electronic parts are sensitive to electromagnetic forces.

Use only high quality screwdrivers when servicing products. Low quality screwdrivers can easily damage the heads of screws.

Use only conductor wire of the properly gauge and insulation for low resistance, because of the low margin of error of most testing equipment.
We recommend 22-gauge twisted copper wire.

Hand-soldering is not recommended, because printed circuit boards (PCBs) can be easily damaged, even with relatively low heat. Never use a soldering iron with a power rating of more than 100 watts and use only lead-free solder with a melting point below 250°C (482°F).

Prior to disassembling the battery charger for repair, ensure that the AC power is disconnected. Always use the replacement parts that are registered in the SEC system. Third-party replac ement parts may not function properly.

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1-2. ESD(Electrostatically Sensitive Devices) Precaution

Many semiconductors and ESDs in electronic devices are particularly sensitive to static discha rge and can be easily damaged by it. We recommend protecting these components with cond uctive anti-static bags when you store or transport them.

Always use an anti-static strap or wristband and remove electrostatic buildup or dissipate static electricity from your body before repairing ESDs.

Ensure that soldering irons have AC adapter with ground wires and that the ground wires are properly connected.

Use only desoldering tools with plastic tips to prevent static discharge.

Properly shield the work environment from accidental electrostatic discharge before opening packages containing ESDs.

The potential for static electricity discharge may be increased in low humidity environments, such as air-conditioned rooms. Increase the airflow to the working area to decrease the chance of accidental static electricity discharges.

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2. Specification

2-1. GSM General Specification

	GSM850	EGSM 900	DCS1800	PCS1900	WCDMA 2100	WCDMA 1900	WCDMA 900	WCMDA 850
Freq. Band[MHz] Uplink/ Downlink	824~849 869~894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990	1922~1977 2112~2167	1852~1907 1932~1987	880~915 925~960	824~849 869~894
ARFCN range	128~251	0~124 & 975~1023	512~885	512~810	UL: 9612~9888 DL: 10562~10838	UL: 9262~9538 DL: 9662~9938	UL: 2712~2863 DL: 2937~3088	UL: 4132~4233 DL: 4357~4458
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz	190MHz	80MHz	45MHz	45MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	3.84Mcps	3.84Mcps	3.84Mcps	3.84Mcps
Time Slot Period/ Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK	QPSKHQPSK	QPSKHQPSK	QPSKHQPSK	QPSKHQPSK
MS Power	33dBm~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm	24dBm~ -50dBm	24dBm~ -50dBm	24dBm~ -50dBm	24dBm~ -50dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm	-106.7dBm	-106.7dBm	-106.7dBm	-106.7dBm
TDMA Mux	8	8	8	8	8	8	8	8
Cell Radius	35Km	35Km	2Km	2Km	2Km	2Km	2Km	2Km

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2-2. GSM Tx Power Class

TX Power control level	GSM850
5	33±2 dBm
6	31±2 dBm
7	29±2 dBm
8	27±2 dBm
9	25±2 dBm
10	23±2 dBm
11	21±2 dBm
12	19±2 dBm
13	17±2 dBm
14	15±2 dBm
15	13±2 dBm
16	11±3 dBm
17	9±3dBm
18	7±3 dBm
19	5±3 dBm

TX Power control level	EGSM900
5	33±2 dBm
6	31±2 dBm
7	29±2 dBm
8	27±2 dBm
9	25±2 dBm
10	23±2 dBm
11	21±2 dBm
12	19±2 dBm
13	17±2 dBm
14	15±2 dBm
15	13±2 dBm
16	11±3 dBm
17	9±3dBm
18	7±3 dBm
19	5±3 dBm

TX Power control level	DCS1800
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

TX Power control level	PCS1900
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

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3. Operation Instruction and Installation

Main Function

- Android OS: Honeycomb
- HSPA+ 21Mbps / HSUPA 5.7Mbps
- 3MP AF with LED Flash, 2M FF
- 7.67 WVGA Super AMOLED Plus (C-Type)
- GPS / BT v3.0 USB v2.0 / WiFi (802.11 a/b/g/n) / OTG
- Recording definition: 720p / Playback at 720p resolution
- Sensors: Accelerometer, Electromagnetic, Gyro, Light, Proximity
- Additional :
  - 1.2GHz Dual Core CPU
  - Application store / Precise Motion UI
  - Seamless Sharing Experience.

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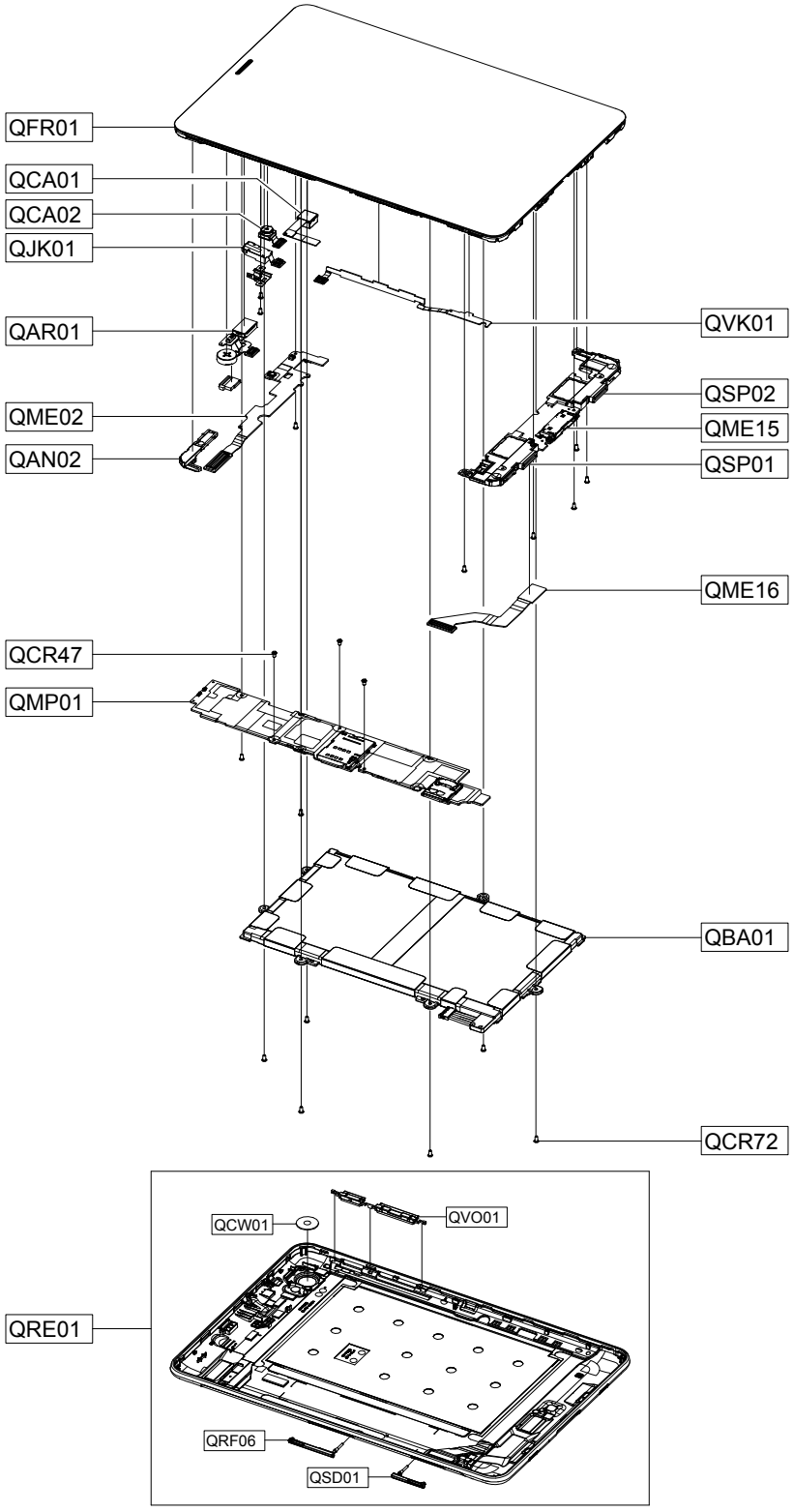
4. Exploded View and Parts List

4-1. Cellular phone Exploded View



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4-2. Cellular phone Parts list

Design LOC		Description	SEC CODE
QCR47		SCREW-MACHINE	6001-001695
QCR72		SCREW-MACHINE	6001-002051
QAN02		INTENNA-GPS/WIFI (GT-P6800)	GH42-03341A
QJK01		UNIT-EARJACK/FPCB ASSY	GH59-11657A
QVK01		UNIT-VOL/PWR KEY PBA(GT-P6800)	GH59-11660A
QME16		UNIT-CON TO CON(GT-P6800)	GH59-11670A
QCA02		CAMERA MODULE-2M_LSI(GT-P6800)	GH59-11684A
QME02		UNIT-SUB PBA(GT-P6800)	GH59-11702A
QAR01		MODULE-RCV/MOT/SENSOR FPCB	GH59-11706A
QSP01		MODULE-SPK/INTENNA_LEFT	GH59-11756A
QSP02		MODULE-SPK/INTENNA_RIGHT (3G)	GH59-11757A
QME15		UNIT-30PIN CON PBA(GT-P6800)	GH59-11913A
QMP01		A/S ASSY-PBA MAIN(COMM)	GH82-06191A
QCA01		ASSY CAMERA-3M 1/5 LSI MODULE(GT-P6800)	GH96-05393A
QFR01		MEA FRONT-OCTA LCD ASSY (SVC)	GH97-13092A
QRE01		ASSY CASE-REAR EU 16G SVC	GH98-22345A
	QVO01	PMO WINDOW-CAMERA	GH72-65664A
	QSD01	PMO KEY-POWER VOLUME	GH72-65665A
	QRF06	PMO COVER-SIM	GH72-65666A
	QSD01	PMO COVER-SD	GH72-65667A

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5. MAIN Electrical Parts List

SEC CODE	Design LOC	Description
0403-001688	D703,ZD500	DIODE-ZENER
0404-001250	D100,D101	DIODE-SCHOTTKY
0404-001361	D800	DIODE-SCHOTTKY
0406-001241	ZD703,ZD704	DIODE-TVS
0406-001375	ZD501	DIODE-TVS
0406-001413	ZD100,ZD300,ZD302	DIODE-TVS
0406-001413	ZD303,ZD700,ZD701	DIODE-TVS
0406-001413	ZD702,ZD705,ZD706	DIODE-TVS
0406-001413	ZD707,ZD708,ZD800	DIODE-TVS
0406-001413	ZD801,ZD802,ZD803	DIODE-TVS
0406-001413	ZD804	DIODE-TVS
0406-001459	D702	DIODE-TVS
0407-001002	D500	DIODE-ARRAY
0504-001113	Q100,Q400,TR700	TR-DIGITAL
0504-001138	TR800	TR-DIGITAL
0505-001325	TR504	FET-SILICON
0505-003052	TR503,U106	FET-SILICON
0505-002720	TR500,TR501,TR502	FET-SILICON
0801-003024	U300	IC
0801-003031	U403,U800	IC
0902-002847	UCP400	IC
1001-001481	U703	IC
1001-001700	U701	IC
1001-001715	U107	IC
1001-001733	U102	IC
1003-002216	U806,U808	IC
1105-002212	UME300	IC
1107-002086	UME400	IC
1201-003308	U200	IC
1201-003317	U103	IC
1202-001121	U700,U706	IC
1203-003307	U803	IC
1203-004776	U404	IC
1203-004818	U802,U809	IC
1203-004819	U401,U602,U907	IC
1203-004925	U804,U810	IC

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SEC CODE	Design LOC	Description
1203-005574	U904	IC
1203-006383	U801	IC
1203-006392	U501	IC
1203-006766	U705	IC
1203-006772	U108	IC
1203-006781	U502	IC
1203-006794	U704	IC
1203-006801	U104	IC
1203-006851	U500	IC
1203-006874	U204,U905	IC
1203-006985	U105	IC
1203-007142	U400	IC
1205-004055	U901	IC
1205-004174	U603	IC
1205-004195	U100	IC
1205-004213	UCP300	IC
1205-004391	U203	IC
1205-004395	U202	IC
1205-004396	U201	IC
1209-002038	U900	IC
1209-002041	U903	IC
1209-002052	U109,U902	IC
1404-001221	TH300,TH400	THERMISTOR-NTC
1405-001133	C1000,C199	VARISTOR
2007-000138	R801,R802,R811,R816	R-CHIP
2007-000138	R823,R824	R-CHIP
2007-000140	R456,R457,R472,R473	R-CHIP
2007-000140	R739,R740	R-CHIP
2007-000141	R825,R826	R-CHIP
2007-000143	R324,R325,R451,R452	R-CHIP
2007-000143	R517,R803	R-CHIP
2007-000148	R516,R725,R726,R727	R-CHIP
2007-000148	R728,R733,R742,R821	R-CHIP
2007-000148	R822	R-CHIP
2007-000157	R730,R734,R735,R736	R-CHIP
2007-000157	R737	R-CHIP

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SEC CODE	Design LOC	Description
2007-000159	R713,R714,R804	R-CHIP
2007-000162	R107,R515,R518	R-CHIP
2007-000162	R524,R529,R741,R902	R-CHIP
2007-000166	R715,R716	R-CHIP
2007-000167	R702	R-CHIP
2007-000170	R712,R810	R-CHIP
2007-000172	R806	R-CHIP
2007-000173	R828,R829	R-CHIP
2007-000242	R601	R-CHIP
2007-000758	R100,R108,R109,R528	R-CHIP
2007-000758	R532	R-CHIP
2007-000775	R101	R-CHIP
2007-001284	R304	R-CHIP
2007-001288	R718	R-CHIP
2007-001306	R521,R522,R523	R-CHIP
2007-003010	R924,R925	R-CHIP
2007-003015	R602,R603,R729,R731	R-CHIP
2007-003029	R412	R-CHIP
2007-007092	R732	R-CHIP
2007-007107	R308,R309,R413,R416	R-CHIP
2007-007107	R809	R-CHIP
2007-007132	R805	R-CHIP
2007-007137	R467	R-CHIP
2007-007139	R819	R-CHIP
2007-007156	R503,R504	R-CHIP
2007-007310	R211,R701,R807	R-CHIP
2007-007312	R478,R481	R-CHIP
2007-007334	R717	R-CHIP
2007-007517	R455,R458,R476,R477	R-CHIP
2007-007517	R911,R912,R913,R914	R-CHIP
2007-007528	R525	R-CHIP
2007-007573	R710	R-CHIP
2007-007766	R703	R-CHIP
2007-007861	R800	R-CHIP
2007-007942	R720,R724	R-CHIP
2007-008043	R105,R106	R-CHIP

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SEC CODE	Design LOC	Description
2007-008045	R104	R-CHIP
2007-008051	R203	R-CHIP
2007-008052	R310,R420,R421,R422	R-CHIP
2007-008052	R423,R470,R474,R475	R-CHIP
2007-008052	R814,R815,R901,R903	R-CHIP
2007-008052	R905	R-CHIP
2007-008055	R214,R318,R429,R432	R-CHIP
2007-008055	R433,R435,R436,R437	R-CHIP
2007-008055	R441,R443,R448,R449	R-CHIP
2007-008055	R450,R460,R483	R-CHIP
2007-008210	R704,R706	R-CHIP
2007-008263	R213	R-CHIP
2007-008275	R711	R-CHIP
2007-008312	R307	R-CHIP
2007-008391	R531	R-CHIP
2007-008401	R723	R-CHIP
2007-008403	R514,R808	R-CHIP
2007-008419	R453,R454	R-CHIP
2007-008420	R319,R479,R480	R-CHIP
2007-008483	R707,R708,R709	R-CHIP
2007-008486	R311	R-CHIP
2007-008516	R400,R402,R418,R419	R-CHIP
2007-008516	R425,R427,R468,R469	R-CHIP
2007-008516	R471,R482,R509,R510	R-CHIP
2007-008516	R512,R513	R-CHIP
2007-008588	R300,R301,R302,R827	R-CHIP
2007-008800	R459,R461	R-CHIP
2007-008806	R113,R700	R-CHIP
2007-009084	R722	R-CHIP
2007-009111	R411	R-CHIP
2007-009155	R320	R-CHIP
2007-009157	R462	R-CHIP
2007-009169	R511	R-CHIP
2007-009170	R442	R-CHIP
2007-009171	R403,R404,R405,R406	R-CHIP
2007-009171	R407,R408,R409,R410	R-CHIP

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2007-009314	R430	R-CHIP
2007-009408	R438,R439	R-CHIP
2007-009794	R207,R530	R-CHIP
2007-009801	R102,R103	R-CHIP
2007-009804	R600	R-CHIP
2007-009805	R208,R209	R-CHIP
2007-009866	R414	R-CHIP
2007-009879	R526	R-CHIP
2007-009964	R463,R466	R-CHIP
2007-010029	R465	R-CHIP
2007-010233	R313	R-CHIP
2007-010856	R527	R-CHIP
2203-000138	C808,C809	C-CERAMIC,CHIP
2203-000233	C102,C103,C183,C204	C-CERAMIC,CHIP
2203-000233	C206,C212,C261,L127	C-CERAMIC,CHIP
2203-000254	C100,C228,C570,C574	C-CERAMIC,CHIP
2203-000278	C230,C259,C260	C-CERAMIC,CHIP
2203-000386	C625	C-CERAMIC,CHIP
2203-000438	C235	C-CERAMIC,CHIP
2203-000489	C846,C847,C911	C-CERAMIC,CHIP
2203-000627	C227	C-CERAMIC,CHIP
2203-000725	C551	C-CERAMIC,CHIP
2203-000812	C341,C342,C343	C-CERAMIC,CHIP
2203-001153	C626	C-CERAMIC,CHIP
2203-002443	C800	C-CERAMIC,CHIP
2203-002687	C562,C566,C578	C-CERAMIC,CHIP
2203-005138	C455,C461	C-CERAMIC,CHIP
2203-005682	C111,C184,C200	C-CERAMIC,CHIP
2203-005683	C144	C-CERAMIC,CHIP
2203-005725	C338,C339,C457,C458	C-CERAMIC,CHIP
2203-005726	C110,C176,C185,C186	C-CERAMIC,CHIP
2203-005726	C189,C194	C-CERAMIC,CHIP
2203-005729	C253,C515,C523	C-CERAMIC,CHIP
2203-005731	C278	C-CERAMIC,CHIP
2203-005736	C143	C-CERAMIC,CHIP
2203-005789	C123,C134	C-CERAMIC,CHIP

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2203-005806	C121	C-CERAMIC,CHIP
2203-006047	C805	C-CERAMIC,CHIP
2203-006048	C101,C340,C462,C569	C-CERAMIC,CHIP
2203-006048	C571,C912	C-CERAMIC,CHIP
2203-006121	C245	C-CERAMIC,CHIP
2203-006187	C115	C-CERAMIC,CHIP
2203-006190	C446	C-CERAMIC,CHIP
2203-006194	C127,C148,C223,C303	C-CERAMIC,CHIP
2203-006194	C304	C-CERAMIC,CHIP
2203-006208	C525,C527,C528,C529	C-CERAMIC,CHIP
2203-006305	C219,C224,C225,C239	C-CERAMIC,CHIP
2203-006305	C251,C258,C266,C270	C-CERAMIC,CHIP
2203-006305	C274,C275,C276,C281	C-CERAMIC,CHIP
2203-006379	C116	C-CERAMIC,CHIP
2203-006399	C149,C165,C195,C196	C-CERAMIC,CHIP
2203-006399	C197,C198,C424,C453	C-CERAMIC,CHIP
2203-006399	C454,C501,C502,C532	C-CERAMIC,CHIP
2203-006399	C541,C565,C572,C575	C-CERAMIC,CHIP
2203-006399	C602,C603,C709,C810	C-CERAMIC,CHIP
2203-006399	C811,C812,C818,C823	C-CERAMIC,CHIP
2203-006399	C824,C827,C828,C829	C-CERAMIC,CHIP
2203-006399	C843,C845,C900,C901	C-CERAMIC,CHIP
2203-006399	C909,C910,C914,C915	C-CERAMIC,CHIP
2203-006399	C916	C-CERAMIC,CHIP
2203-006423	C125,C130,C135,C136	C-CERAMIC,CHIP
2203-006423	C137,C138,C139,C150	C-CERAMIC,CHIP
2203-006423	C151,C154,C155,C156	C-CERAMIC,CHIP
2203-006423	C158,C201,C202,C231	C-CERAMIC,CHIP
2203-006423	C233,C234,C236,C237	C-CERAMIC,CHIP
2203-006423	C242,C248,C284,C302	C-CERAMIC,CHIP
2203-006423	C305,C306,C316,C317	C-CERAMIC,CHIP
2203-006423	C318,C320,C321,C323	C-CERAMIC,CHIP
2203-006423	C324,C326,C327,C328	C-CERAMIC,CHIP
2203-006423	C331,C332,C333,C344	C-CERAMIC,CHIP
2203-006423	C400,C401,C402,C407	C-CERAMIC,CHIP
2203-006423	C412,C432,C436,C438	C-CERAMIC,CHIP

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2203-006423	C440,C442,C445,C456	C-CERAMIC,CHIP
2203-006423	C459,C460,C552,C608	C-CERAMIC,CHIP
2203-006423	C905,C906,C908,C913	C-CERAMIC,CHIP
2203-006462	C269,C277	C-CERAMIC,CHIP
2203-006474	C419,C420	C-CERAMIC,CHIP
2203-006562	C513,C710,C926	C-CERAMIC,CHIP
2203-006642	C431,C434	C-CERAMIC,CHIP
2203-006647	C140,C141,C142,C157	C-CERAMIC,CHIP
2203-006647	C616,C618	C-CERAMIC,CHIP
2203-006648	C129,C613,C614	C-CERAMIC,CHIP
2203-006665	C252,C280	C-CERAMIC,CHIP
2203-006668	C448,C449	C-CERAMIC,CHIP
2203-006815	C118,C122	C-CERAMIC,CHIP
2203-006824	C166	C-CERAMIC,CHIP
2203-006839	C131,C152,C255,C268	C-CERAMIC,CHIP
2203-006839	C512,C514,C606,C907	C-CERAMIC,CHIP
2203-006872	C153,C168,C203,C209	C-CERAMIC,CHIP
2203-006872	C214,C216,C232,C238	C-CERAMIC,CHIP
2203-006872	C241,C244,C246,C247	C-CERAMIC,CHIP
2203-006872	C250,C254,C403,C404	C-CERAMIC,CHIP
2203-006872	C406,C418,C426,C435	C-CERAMIC,CHIP
2203-006872	C437,C441,C535,C539	C-CERAMIC,CHIP
2203-006872	C540,C544,C545,C546	C-CERAMIC,CHIP
2203-006872	C615,C813,C815,C816	C-CERAMIC,CHIP
2203-006872	C817,C825,C826,C839	C-CERAMIC,CHIP
2203-006872	C840,C902,C903,C904	C-CERAMIC,CHIP
2203-006890	C524	C-CERAMIC,CHIP
2203-006896	C191,C192,C193	C-CERAMIC,CHIP
2203-006979	C106,C109,C620,C623	C-CERAMIC,CHIP
2203-007147	C443,C444,C463,C510	C-CERAMIC,CHIP
2203-007194	C240,C243,C279	C-CERAMIC,CHIP
2203-007210	C169,C300,C307,C312	C-CERAMIC,CHIP
2203-007210	C315,C319,C325,C329	C-CERAMIC,CHIP
2203-007210	C330,C334,C335,C345	C-CERAMIC,CHIP
2203-007230	C568	C-CERAMIC,CHIP
2203-007240	C336,C337,C452,C704	C-CERAMIC,CHIP

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SEC CODE	Design LOC	Description
2203-007271	C126,C215,C226,C267	C-CERAMIC,CHIP
2203-007271	C285,C286,C287,C439	C-CERAMIC,CHIP
2203-007271	C820	C-CERAMIC,CHIP
2203-007317	C128,C159,C164,C170	C-CERAMIC,CHIP
2203-007317	C171,C172,C405,C408	C-CERAMIC,CHIP
2203-007317	C413,C415,C421,C423	C-CERAMIC,CHIP
2203-007317	C505,C507,C508,C509	C-CERAMIC,CHIP
2203-007317	C516,C517,C518,C519	C-CERAMIC,CHIP
2203-007317	C520,C521,C522,C534	C-CERAMIC,CHIP
2203-007317	C538,C707,C830,C832	C-CERAMIC,CHIP
2203-007317	C834,C835	C-CERAMIC,CHIP
2203-007342	C806,C807	C-CERAMIC,CHIP
2203-007391	C249	C-CERAMIC,CHIP
2203-007393	C147,C451,C531,C821	C-CERAMIC,CHIP
2203-007393	C822	C-CERAMIC,CHIP
2203-007449	C167,C308,C309,C310	C-CERAMIC,CHIP
2203-007449	C322,C409,C410,C411	C-CERAMIC,CHIP
2203-007449	C414,C416,C417,C422	C-CERAMIC,CHIP
2203-007449	C425,C427,C428,C429	C-CERAMIC,CHIP
2203-007449	C430,C433,C464,C465	C-CERAMIC,CHIP
2203-007449	C500,C533,C536,C537	C-CERAMIC,CHIP
2203-007449	C542,C543,C547,C548	C-CERAMIC,CHIP
2203-007449	C549,C550,C607,C609	C-CERAMIC,CHIP
2203-007449	C610,C611,C617,C621	C-CERAMIC,CHIP
2203-007449	C622,C624,C701,C703	C-CERAMIC,CHIP
2203-007449	C831,C844,C917,C919	C-CERAMIC,CHIP
2203-007449	C920,C921,C922,C923	C-CERAMIC,CHIP
2203-007449	C927,C928	C-CERAMIC,CHIP
2203-007456	C503,C711	C-CERAMIC,CHIP
2203-007474	C161,C163,C311,C313	C-CERAMIC,CHIP
2203-007474	C314,C504,C506,C526	C-CERAMIC,CHIP
2203-007474	C553,C554,C555,C556	C-CERAMIC,CHIP
2203-007474	C557,C558,C559,C560	C-CERAMIC,CHIP
2203-007474	C561,C563,C564,C567	C-CERAMIC,CHIP
2203-007474	C708	C-CERAMIC,CHIP
2203-007775	C577	C-CERAMIC,CHIP

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2203-007781	C700	C-CERAMIC,CHIP
2203-007795	C301,C511,C576,C705	C-CERAMIC,CHIP
2203-007795	C712,C801,C802,C803	C-CERAMIC,CHIP
2203-007795	C804,C814	C-CERAMIC,CHIP
2404-001561	TA600	C-TA,CHIP
2703-002176	L208	INDUCTOR-SMD
2703-001729	L130	INDUCTOR-SMD
2703-002207	C263,L207	INDUCTOR-SMD
2703-002208	C265	INDUCTOR-SMD
2703-002313	L100,L202	INDUCTOR-SMD
2703-002314	L205	INDUCTOR-SMD
2703-002369	L206	INDUCTOR-SMD
2703-002596	L117,L120	INDUCTOR-SMD
2703-002649	L110	INDUCTOR-SMD
2703-002858	L111,L112	INDUCTOR-SMD
2703-002901	L122,L126	INDUCTOR-SMD
2703-002907	L125	INDUCTOR-SMD
2703-002999	L102	INDUCTOR-SMD
2703-003546	L400	INDUCTOR-SMD
2703-003686	L503	INDUCTOR-SMD
2703-003755	L116,L118,L119	INDUCTOR-SMD
2703-003869	L302,L303	INDUCTOR-SMD
2703-003892	L504	INDUCTOR-SMD
2703-003908	C208,L204	INDUCTOR-SMD
2703-003909	L501,L505	INDUCTOR-SMD
2703-003911	L500,L502,L700	INDUCTOR-SMD
2703-003917	L108,L132,L134	INDUCTOR-SMD
2703-004000	L105,L124,L129,L131	INDUCTOR-SMD
2703-004014	C177,C178,L113	INDUCTOR-SMD
2703-004018	L123,L128,C114	INDUCTOR-SMD
2703-004033	L203	INDUCTOR-SMD
2703-004034	C107,C108	INDUCTOR-SMD
2703-004037	C173,C174,C180,C181	INDUCTOR-SMD
2703-004037	L103,L104	INDUCTOR-SMD
2703-004185	L115	INDUCTOR-SMD
2703-004189	L801	INDUCTOR-SMD

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SEC CODE	Design LOC	Description
2703-004194	L506	INDUCTOR-SMD
2801-004458	OSC400	CRYSTAL-SMD
2801-004551	OSC300	CRYSTAL-SMD
2801-004902	OSC500	CRYSTAL-SMD
2801-004954	OSC202	CRYSTAL-SMD
2801-005069	OSC201	CRYSTAL-SMD
2809-001369	OSC100	CRYSTAL-SMD
2809-001374	OSC200	OSCILLATOR-VCTCXO
2901-001625	F800	FILTER-EMI/ESD
2901-001647	F801,F802	FILTER-EMI SMD
2904-001944	F202,F206	FILTER-SAW
2904-001988	F200	FILTER-SAW
2904-002020	F102	FILTER-SAW
2904-002027	F101	FILTER-SAW
2910-000126	F100	DUPLEXER-SAW
2911-000188	F205	DUPLEXER-FEM
2911-000191	U101	DUPLEXER-FEM
3301-001534	L900,L901,L902,L903	BEAD-SMD
3301-001659	L201	BEAD-SMD
3301-001912	L121	BEAD-SMD
3301-001929	L200,L600	BEAD-SMD
3301-001956	L300,L301	BEAD-SMD
3301-002037	L800	BEAD-SMD
3301-002062	L114	BEAD-SMD
3301-002065	L601,L602	BEAD-SMD
3705-001448	ANT100	CONNECTOR-COAXIAL
3705-001731	RFS100,RFS101	CONNECTOR-COAXIAL
3709-001575	CD700	CONNECTOR-CARD EDGE
3709-001625	CN300	CONNECTOR-CARD EDGE
3711-006483	HDC700	HEADER-BOARD TO BOARD
3711-006568	HDC800	HEADER-BOARD TO BOARD
3711-006843	HDC801	HEADER-BOARD TO BOARD
3711-007173	HDC300,HDC400	HEADER-BOARD TO BOARD
3711-007494	BAT500	CONNECTOR-HEADER
3712-001362	ANT101,ANT102	CONNECTOR-TERMINAL
3712-001412	ANT103,ANT104,ANT200	CONNECTOR-TERMINAL

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SEC CODE	Design LOC	Description
3712-001412	ANT201,ANT202	CONNECTOR-TERMINAL
4709-001672	F203	FREQ-DISTRIBUTER
4709-002018	F207	BALUN
4709-002019	F204	BALUN
4709-002021	F201	FREQ-DISTRIBUTER
GH80-03320A	C207,R112,R115,R116	Solder Bridge PAD
GH80-03320A	R117,R118,R119,R200	Solder Bridge PAD
GH80-03320A	R201,R202,R204,R205	Solder Bridge PAD
GH80-03320A	R206,R212,R216,R486	Solder Bridge PAD
GH80-03320A	R487,R488,R813,R817	Solder Bridge PAD
GH80-03320A	R900	Solder Bridge PAD
GH80-03321A	R120,R210,R314,R315	Solder Bridge PAD
GH80-03321A	R440,R719,R721,R904	Solder Bridge PAD
GH80-03321A	R923	Solder Bridge PAD
GH98-21795A	SC101	SHIELDCAN
GH98-21796A	SC100	SHIELDCAN

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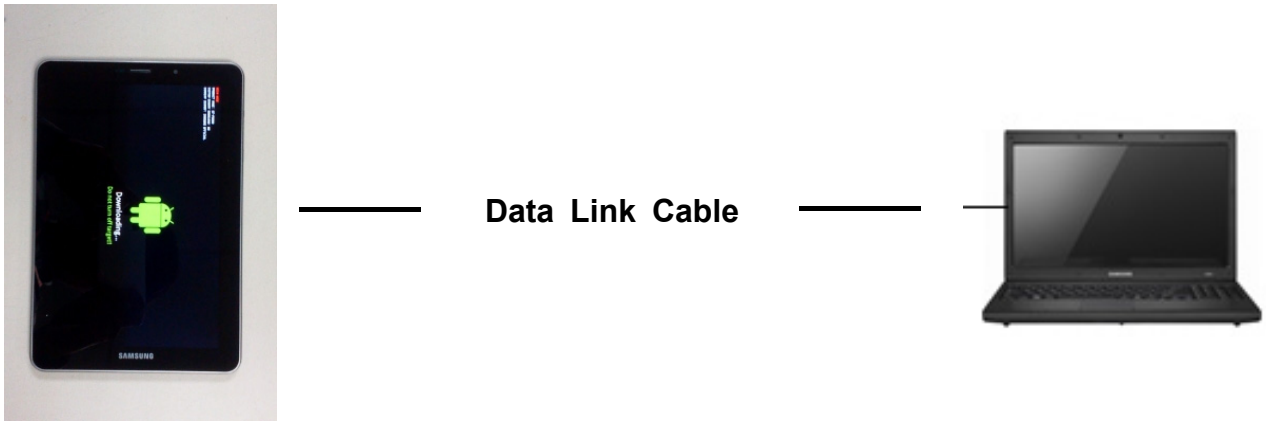
6. Level 1 Repair

6-1. S/W Download

6-1-1. Pre-requisite for S/W Downloading

- Downloader Program (**Odin3 v1.85.exe**)
- GT-P6800 Tablet PC
- Data Link Cable (GH39-01440B)
- Binary files

❖ **Settings**



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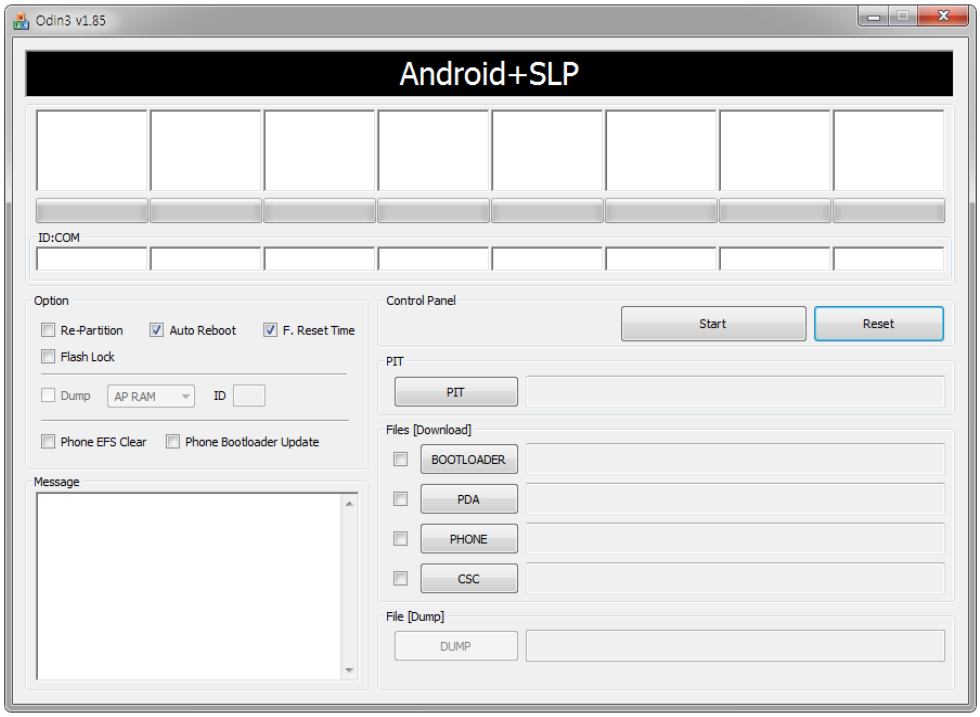
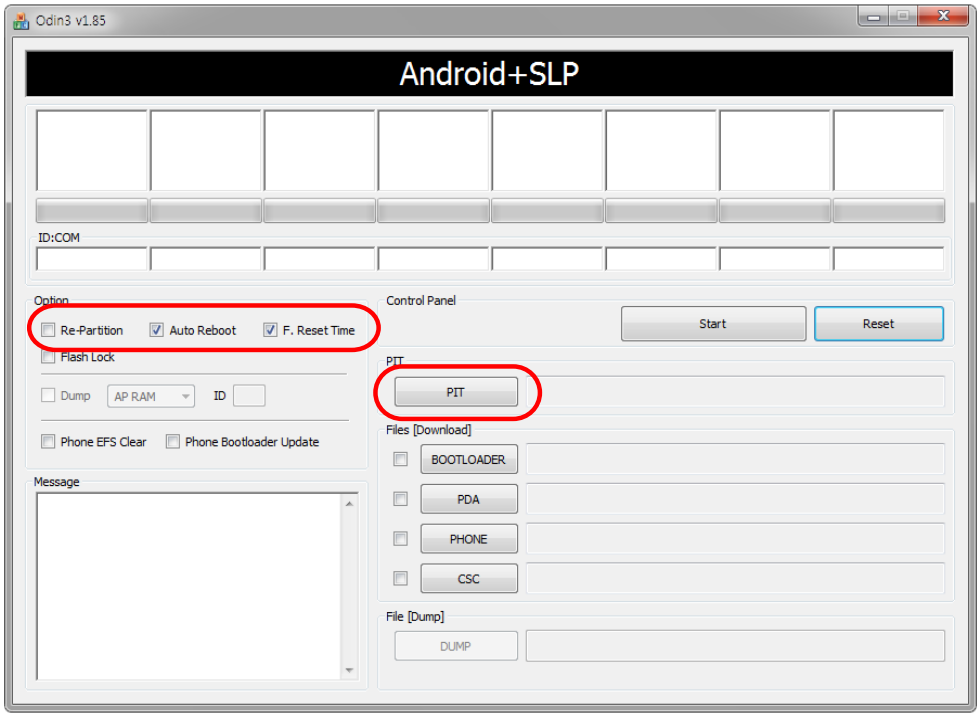
6-1-2. S/W Downloader Program

■ Load the binary download program by executing the **"Odin3 v1.85.exe"** ← **Run this file.**



1. Option Selection

- Check Auto Reboot and F. Reset Time, then select PIT File



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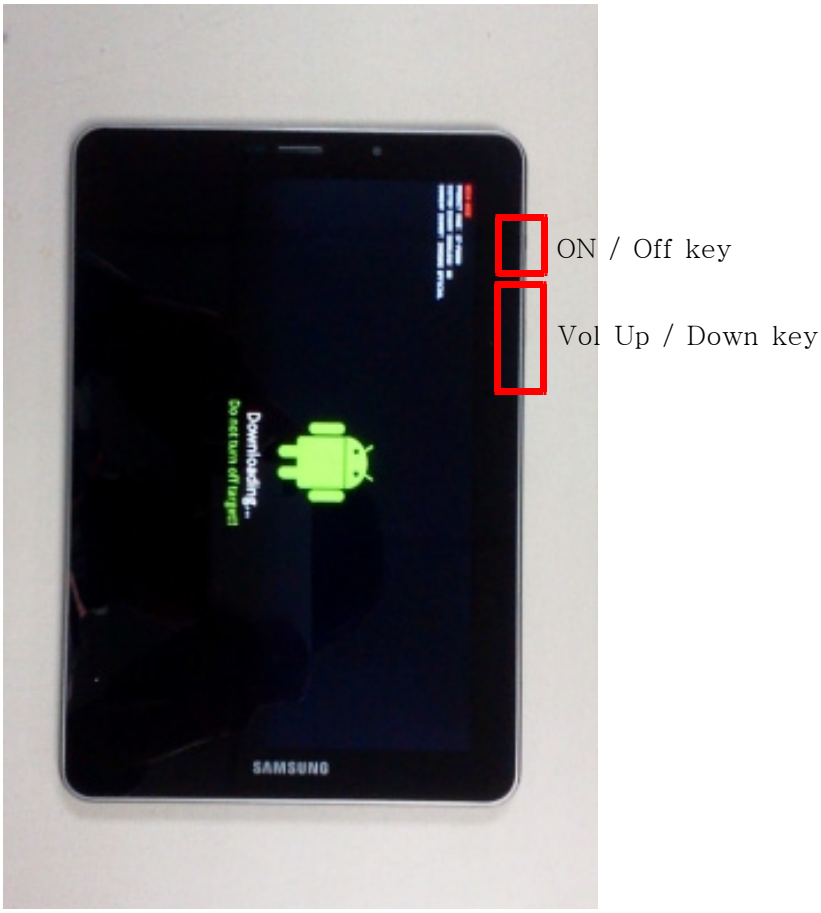
2. Enter Device into Download Mode

- Press down on Volume Down button and power key at same time for 10 seconds
- Press down on Volume Up button to enter device into download mode



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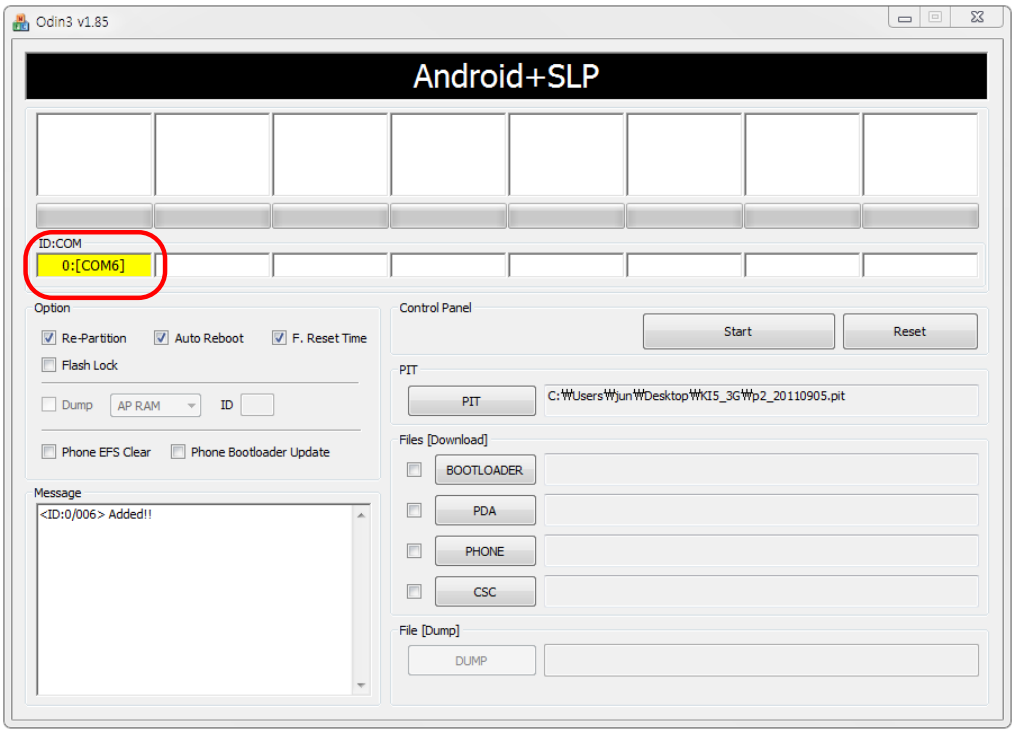
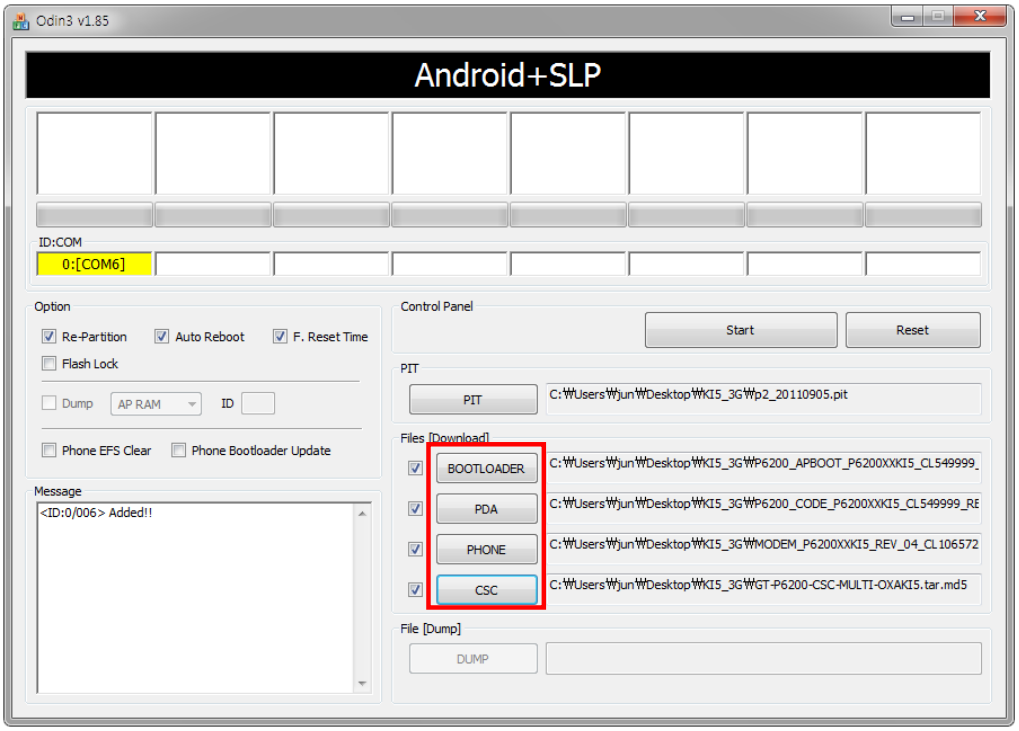
3. Connect the Device to PC via Data Cable.
Make sure ID:COM box highlighted yellow that the device is connected to the PC.



4. Enable the check mark by click on the following options,

- Check BOOTLOADER, PDA, PHONE, and CSC Files



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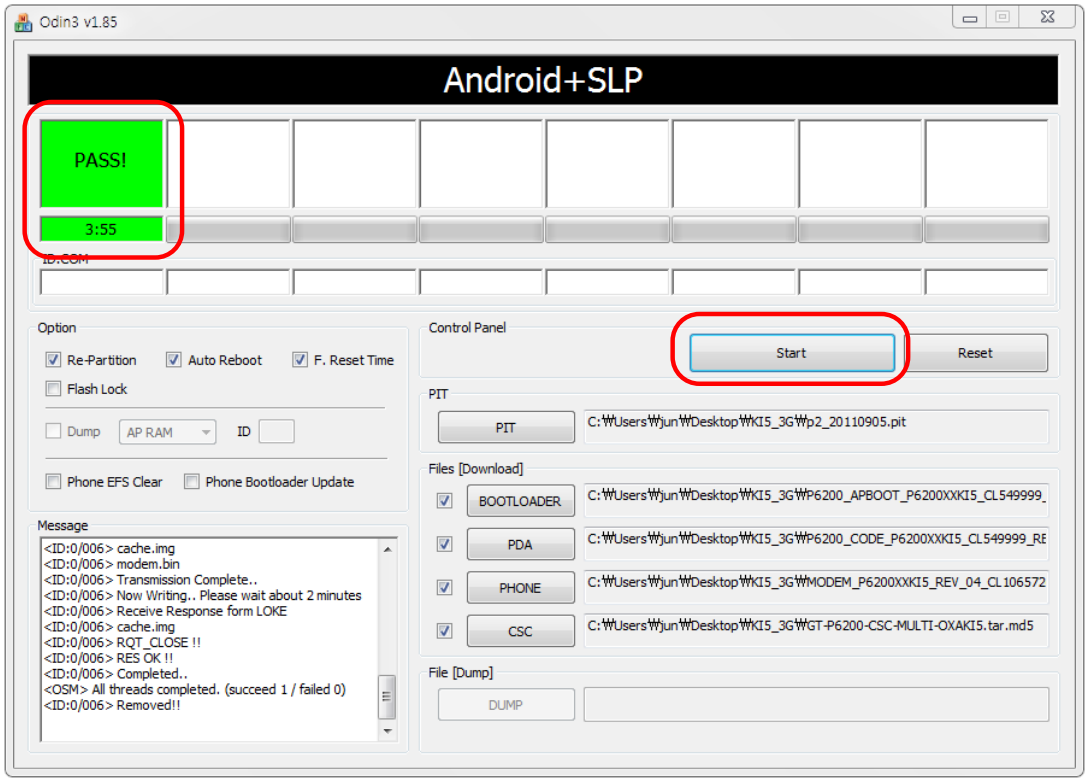
5. Start downloading binary file into the device by clicking Start Button on the screen. the green colored "PASS!" sign will appear on the upper-left box if the binary file has been successfully downloaded into the device.



6. Disconnect the device from the Data cable.

7. Once the device boots up, confirm the downloaded version name and etc. :
***#1234#**

Full Reset :
***2767*3855#**

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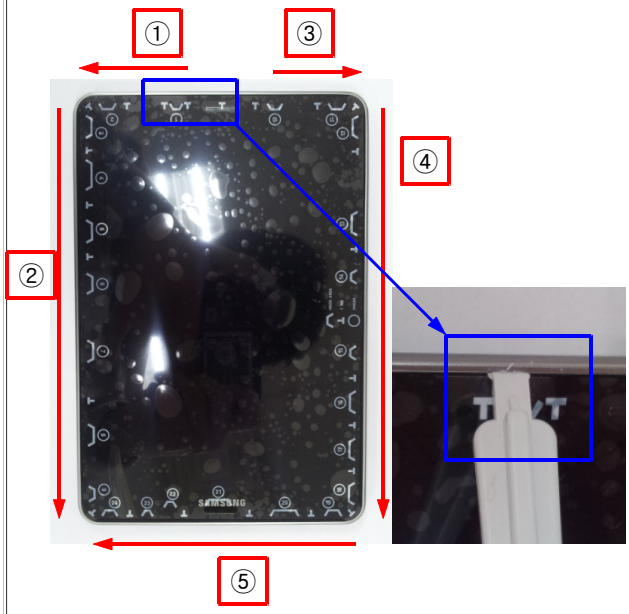
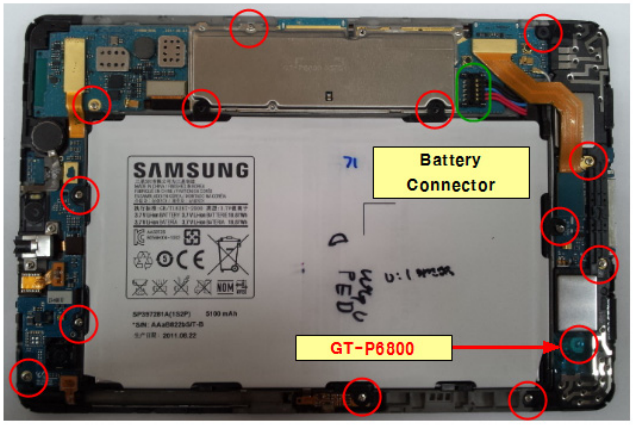
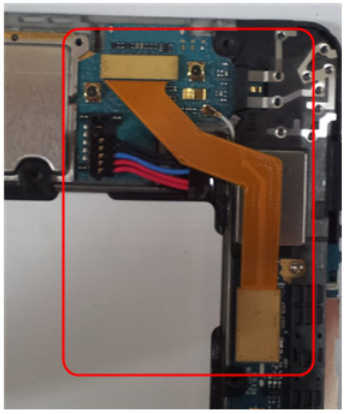
7. Level 2 Repair

7-1. Disassembly

1 Disassemble the Rear in order of the picture. 	2 Loosen the 13 screws and then disassemble the Battery Conncetor. 
1) Be careful not to make scratch and molding damage!	1) Be careful not to make a scratch of FPCBs. 2) Be careful not to make scratch and molding damage!
3 Disassemble the Connector FPCB (con to con) 	4 Disassemble the Main Battery.
1) Be careful not to make scratch and molding damage! 2) Be careful not to damage FPCBs	1) Be careful not to make scratch and molding damage!

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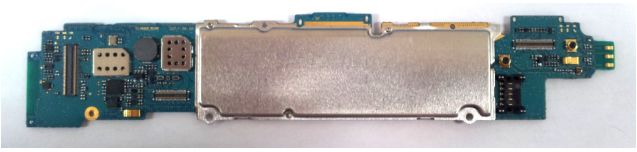
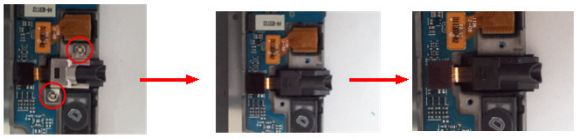
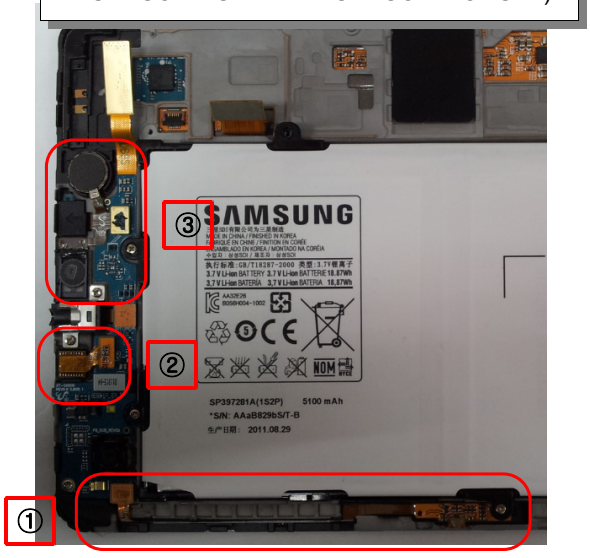
5 Disassemble the Speaker module. 	6 Disassemble the Connector of OCTA, SUB PBA and then disassemble MAIN PBA. 
1) Be careful not to make scratch and molding damage!	1) Be careful not to make scratch and molding damage! 2) Be careful not to damage FPCB
7 Disassemble Bracket of Earphone connector after disassembling 2 screws and then lift the Earphone connector. 	8 Disassembly order refer to the picture. (VOLUME KEY FPCB → 2Mega CAMERA → SENSOR RUBBER → SENSOR MODULE) 
1) Be careful not to make scratch and molding damage!	1) Be careful not to make scratch and molding damage! 2) Be careful not to damage FPCB

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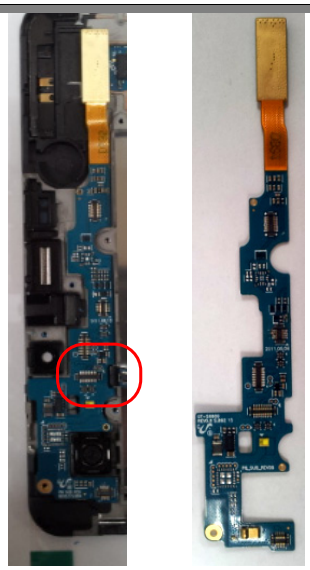
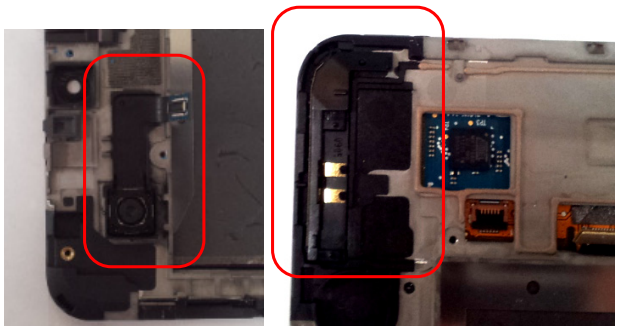
9 Disassemble SUB PBA after disassembling 3Mega Camera connector. 	10 Disassemble WiFi antenna after disassembling 3Mega Camera. 
1) Be careful not to make scratch and molding damage! 3) Be careful not to damage Receiver FPCB	1) Be careful not to make scratch and molding damage!

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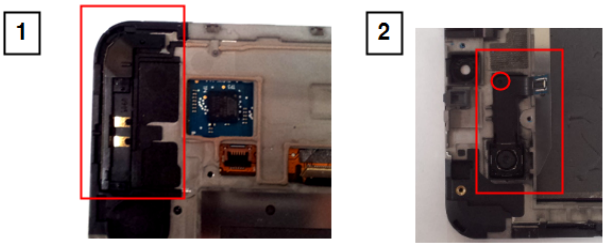
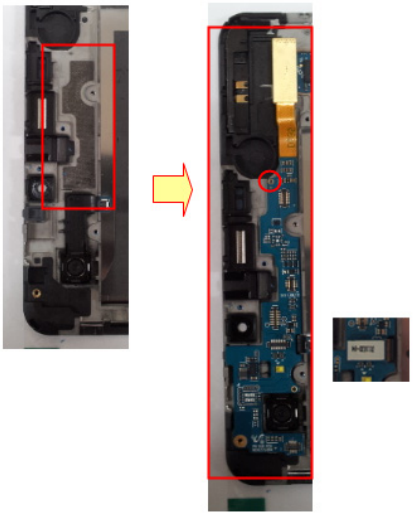
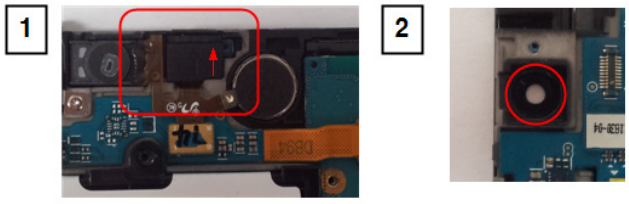
7-2. Assembly

1 Place WIFI INTENNA and 3Mega CAMERA on OCTA LCD Bracket Assembly. 	2 Place the SUB PBA on the Bracket after removing release paper and then assemble the connector of 3Mega CAMERA. 
1) Be careful not to make scratch and molding damage!	1) Be careful not to make scratch and molding damage!
3 place the Camera Rubber after placing the Sensor Rubber along the direction of the below picture. 	4 Place the 2 Mega CAMERA and then assemble the Camera connector.
1) Be careful not to make scratch and molding damage!	1) Be careful not to make scratch and molding damage!

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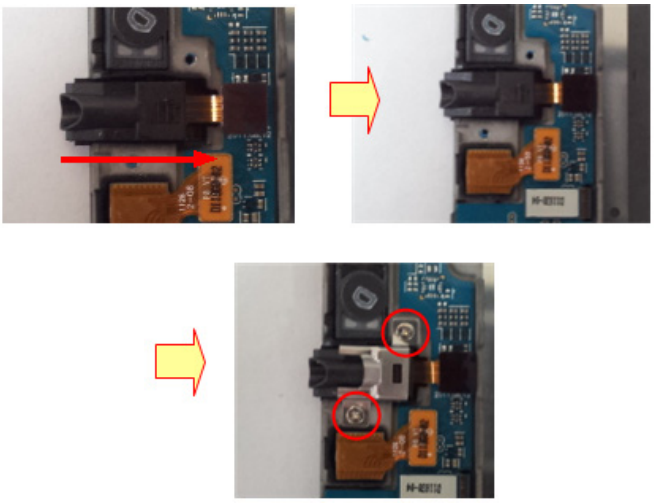
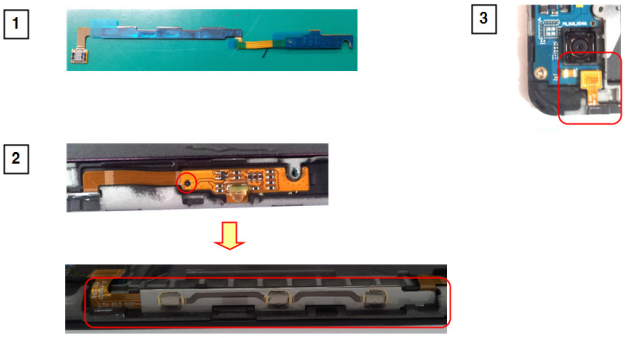
5 place the earphone connector bracket on LCD Bracket after placing the earphone connector as push to downside. And then screw the 2 screws.



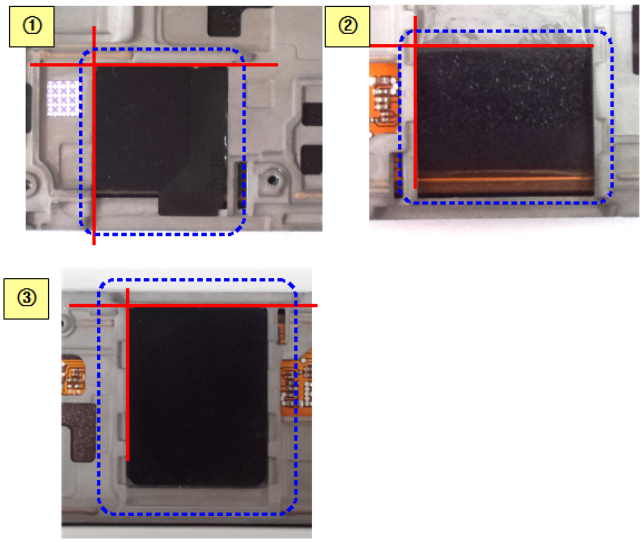
1) Be careful not to make scratch and molding damage!

6 place the Volume key FPCB on the LCD Bracket follow the picture after removing release paper of Volume Key FPCB. and then assemble the Volume key FPCB conncetor.



1) Be careful not to make scratch and molding damage!

7 Attach the tapes in order of the below pictures.



1) Be careful not to make scratch and molding damage!

8 Assemble the connectors(SUB PBA and OCTA LCD) after placing the main PBA on LCD Bracket.

1) Be careful not to make scratch and molding damage!

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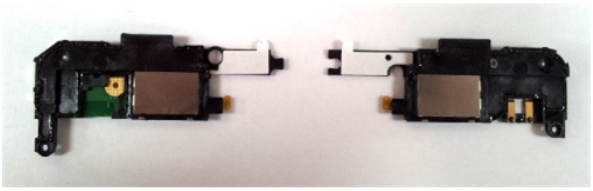
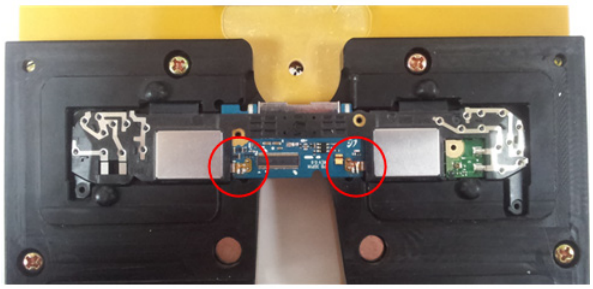
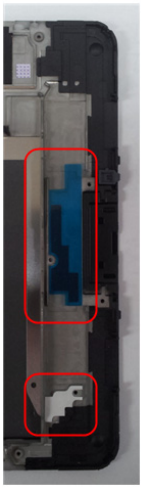
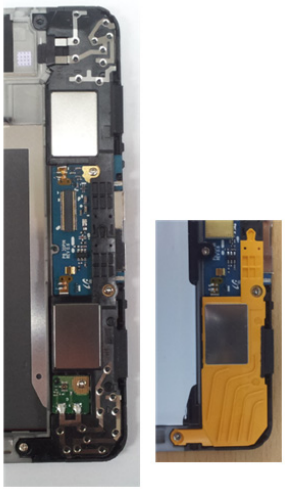
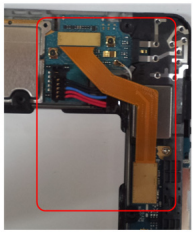
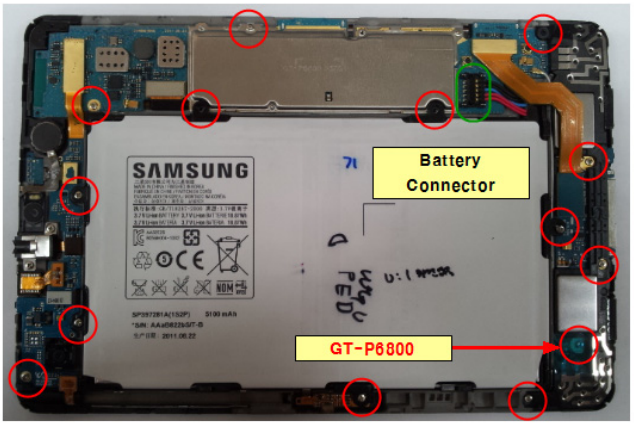
9 attach the Right and Left side speaker module after removing the release paper of speaker modules. and then solder the speaker modules on the PCB of 30 pin IF connector.  	10 Assemble speaker assembly module on LCD Bracket after removing the release paper on the LCD Bracket. 1  2 
1) Be careful not to make scratch and molding damage!	1) Be careful not to make scratch and molding damage!
11 Assemble the connector main IF FPCB(Connector to connector) after placing the Battery. 1 2 	12 Assemble the Battery connector after screwing 13 screws. 
1) Be careful not to make scratch and molding damage!	1) Be careful not to make scratch and molding damage!

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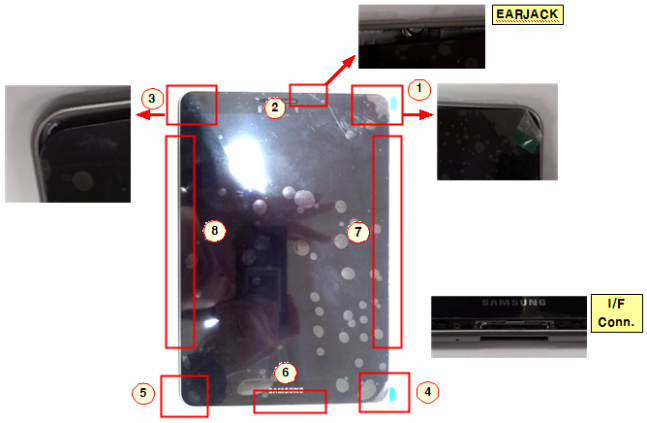
13 Assemble the hook of REAR in order of the picture. 	
1) Be careful not to make scratch and molding damage!	

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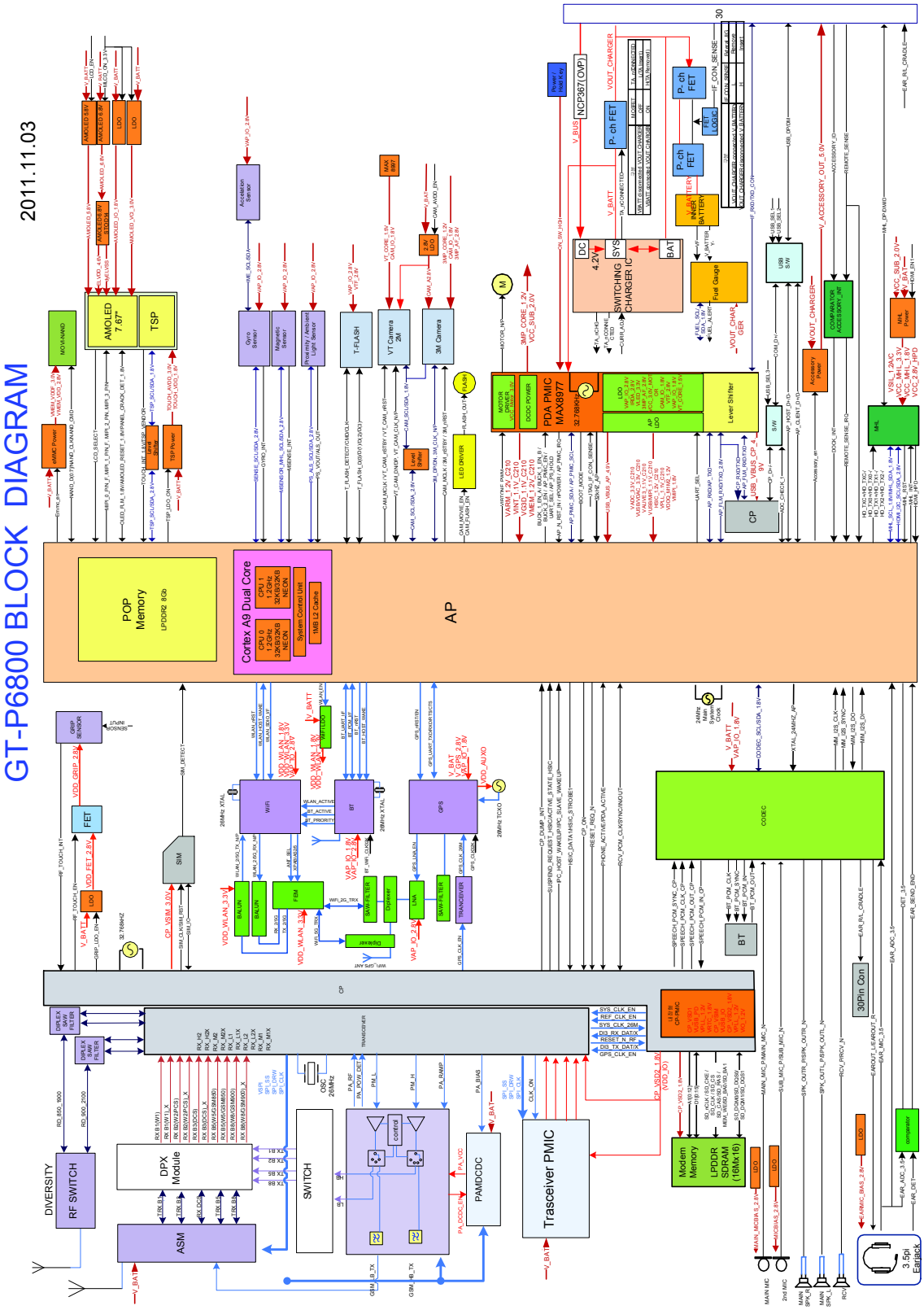
8. Level 3 Repair

8-1. Block Diagram



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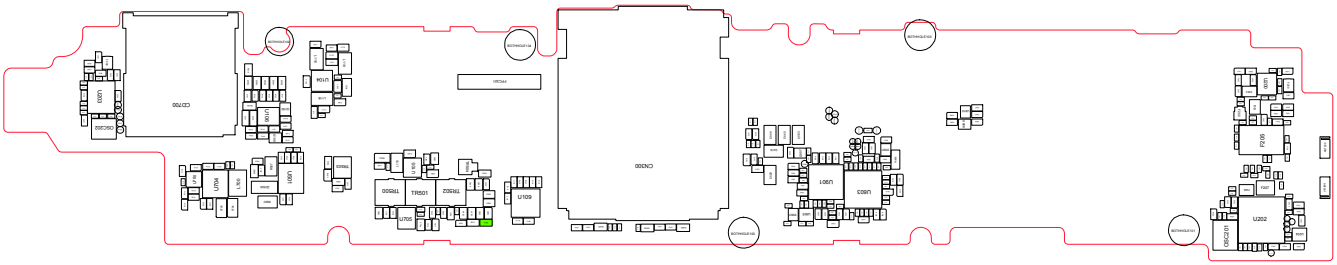
8-2. PCB Diagrams

8-2-1. Top



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8-2-2. Bottom

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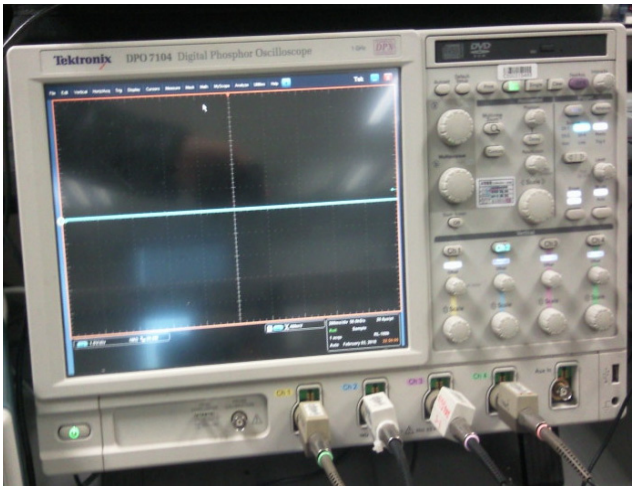
8-3. Flow Chart of Troubleshooting

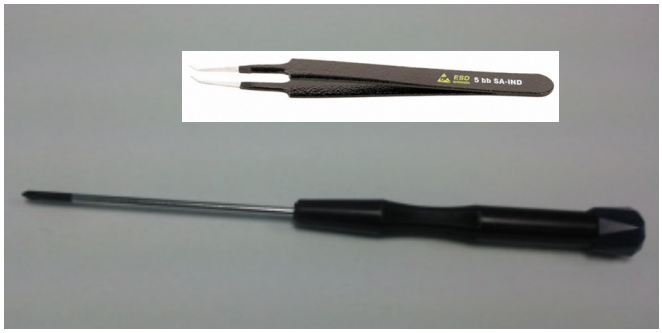
Equipments



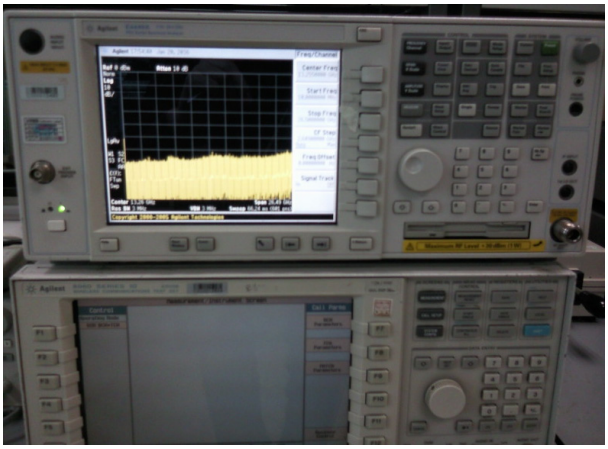
↑ Oscilloscope

↑ Digital Multimeter

↑ Power Supply



↑ + driver, ESD Safe Tweezer



↑ 8960 & Spectrum Analyzer

↑ Soldering iron

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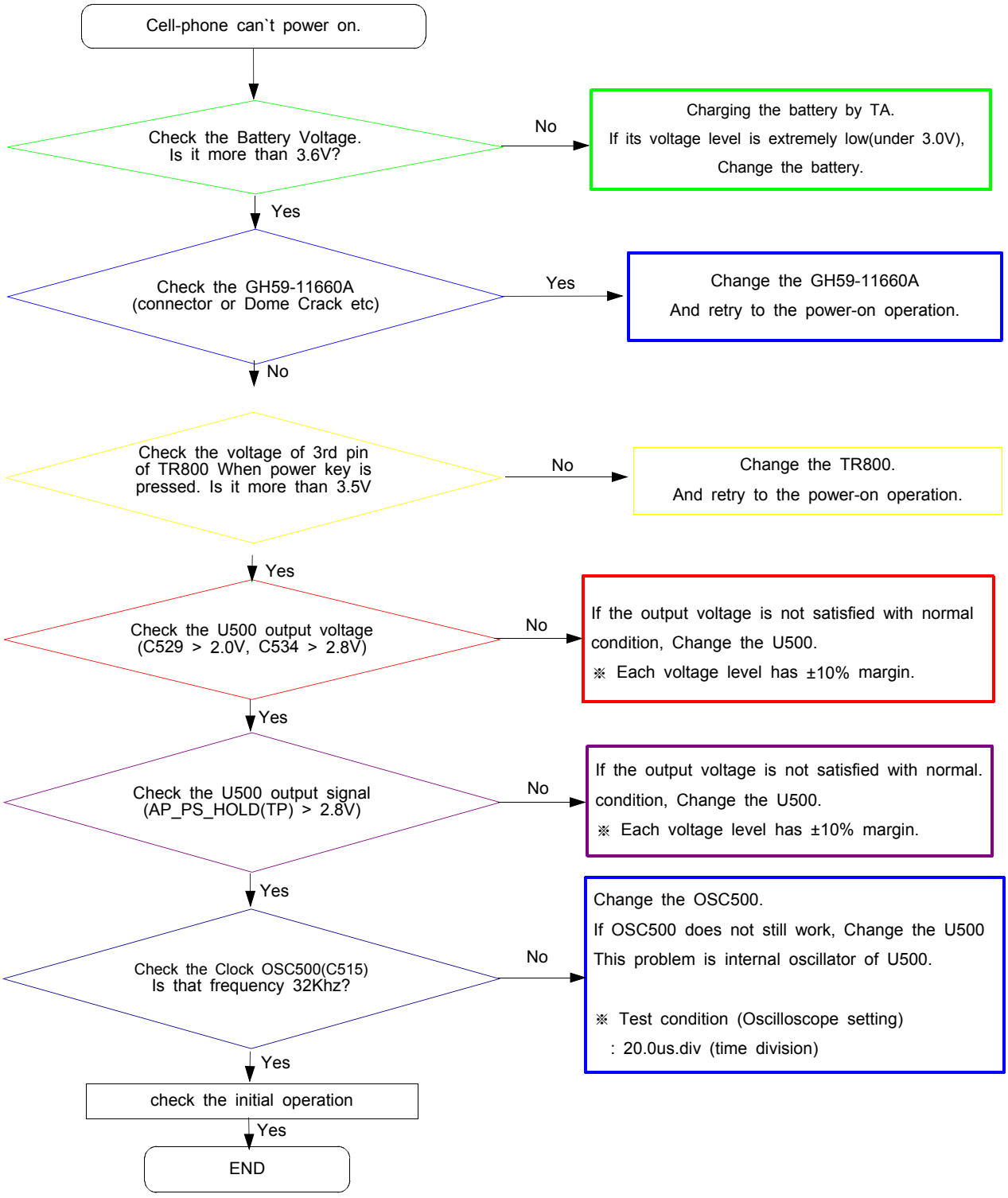
8-3-1. Power On


Cell-phone can`t power on.
Check the Battery Voltage.
Is it more than 3.6V?
No
Charging the battery by TA.
If its voltage level is extremely low(under 3.0V),
Change the battery.
Yes
Check the GH59-11660A
(connector or Dome Crack etc)
Yes
Change the GH59-11660A
And retry to the power-on operation.
No
Check the voltage of 3rd pin
of TR800 When power key is
pressed. Is it more than 3.5V
No
Change the TR800.
And retry to the power-on operation.
Yes
Check the U500 output voltage
(C529 > 2.0V, C534 > 2.8V)
No
If the output voltage is not satisfied with normal
condition, Change the U500.
※ Each voltage level has ±10% margin.
Yes
Check the U500 output signal
(AP_PS_HOLD(TP) > 2.8V)
No
If the output voltage is not satisfied with normal.
condition, Change the U500.
※ Each voltage level has ±10% margin.
Yes
Check the Clock OSC500(C515)
Is that frequency 32Khz?
No
Change the OSC500.
If OSC500 does not still work, Change the U500
This problem is internal oscillator of U500.
※ Test condition (Oscilloscope setting)
: 20.0us.div (time division)
Yes
check the initial operation
Yes
END

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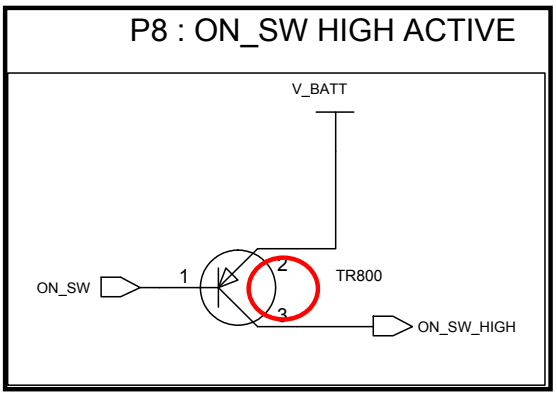

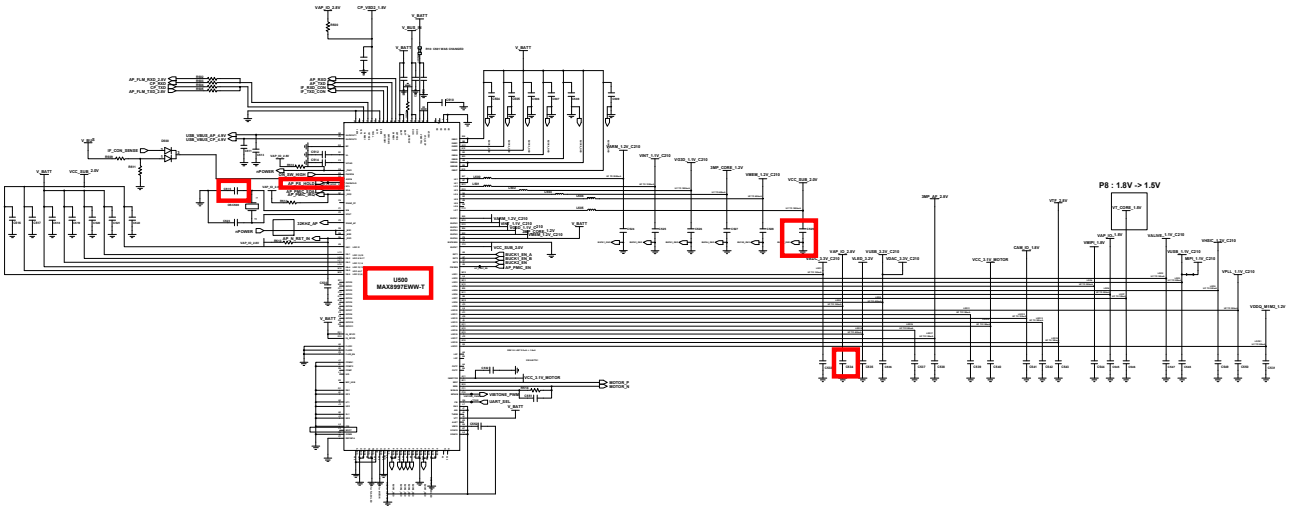

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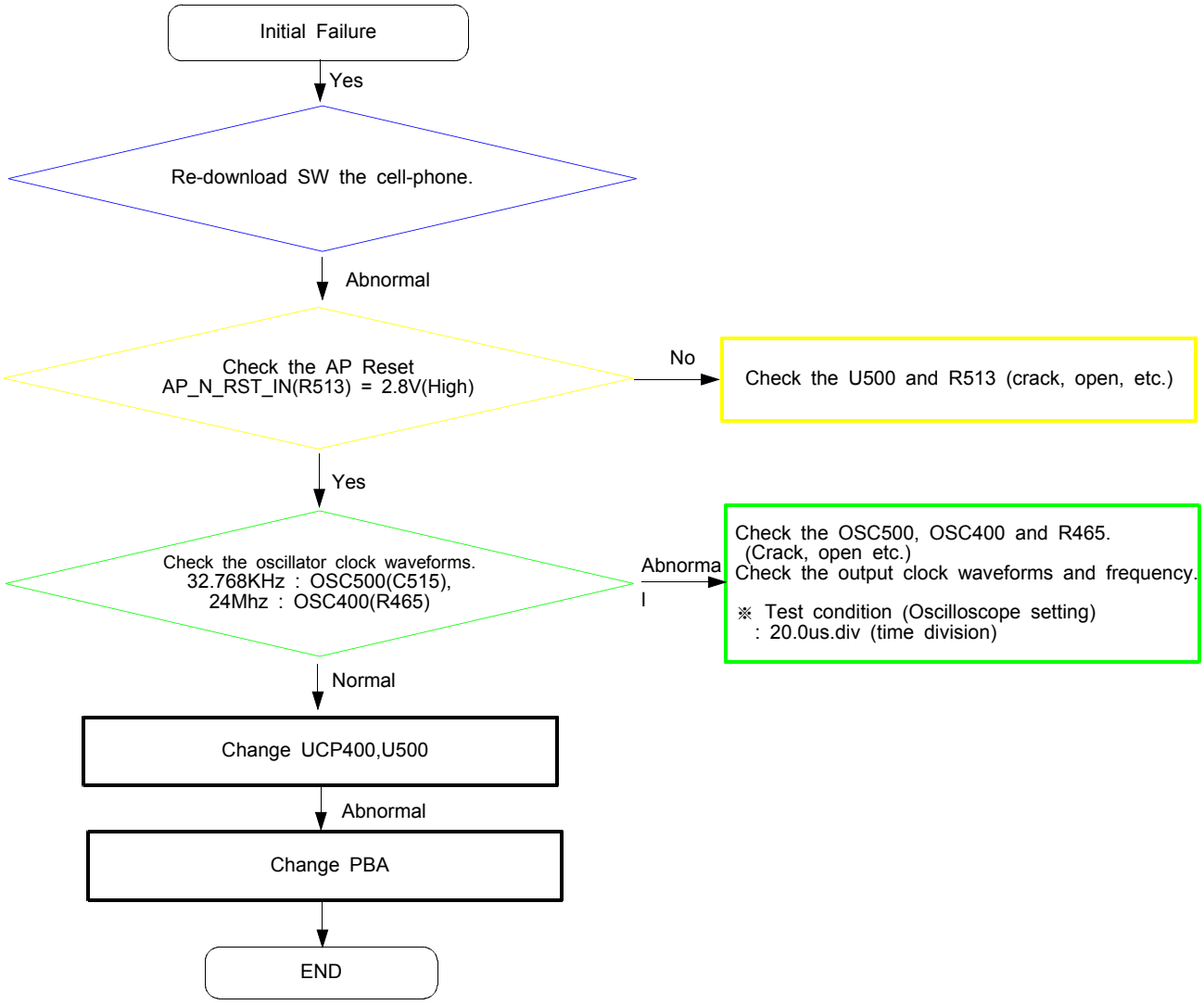
8-3-2. Initial



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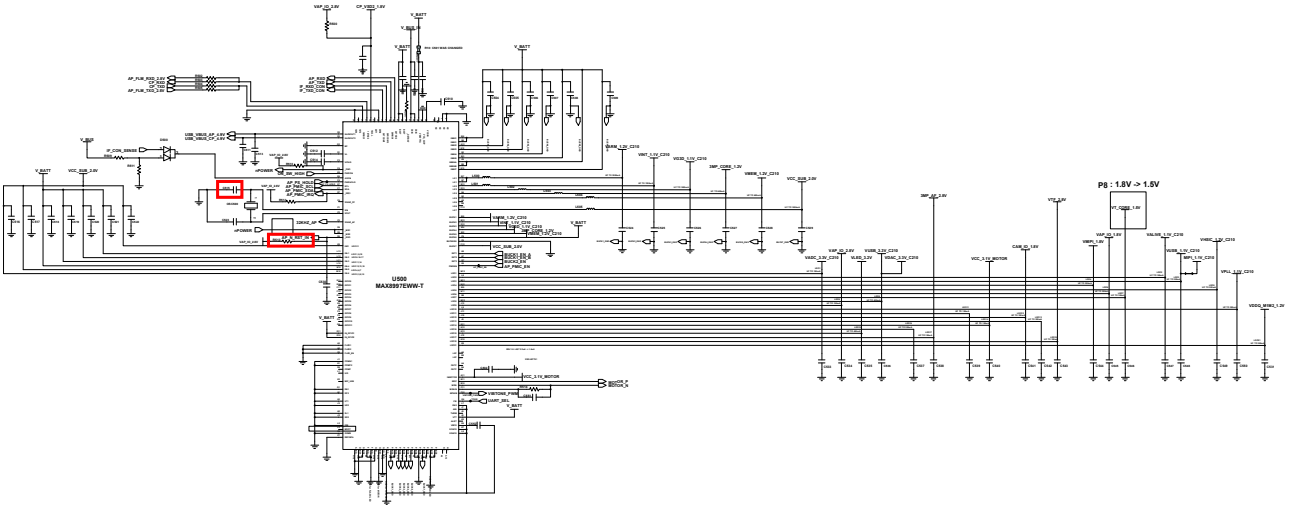
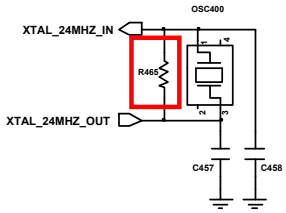
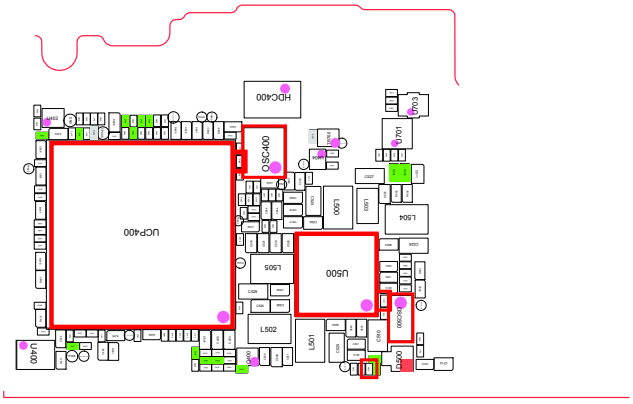


AP CLOCK





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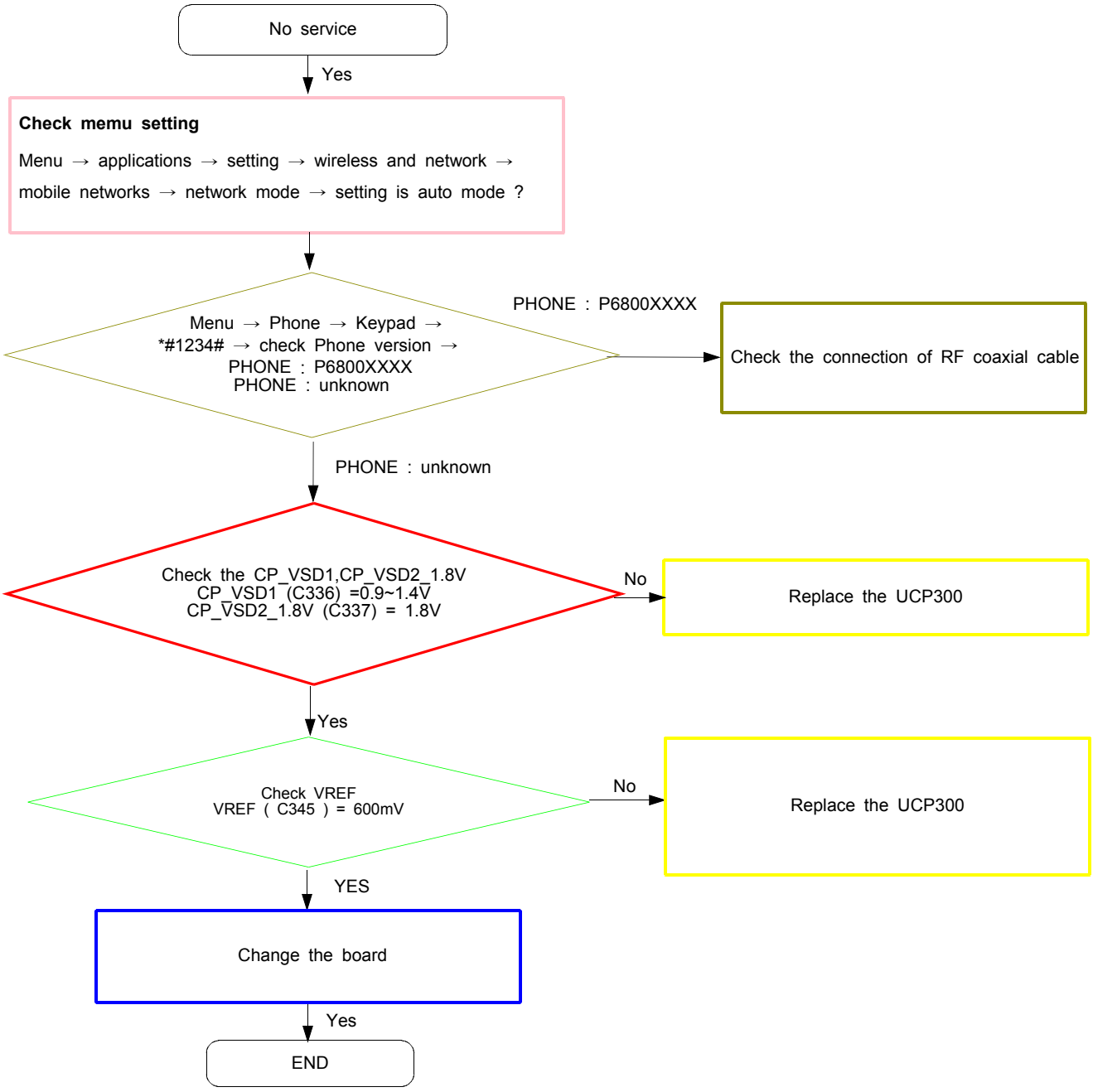
8-3-3. No Service


No service
Yes
Check memu setting
Menu → applications → setting → wireless and network → mobile networks → network mode → setting is auto mode ?
Menu → Phone → Keypad → *#1234# → check Phone version → PHONE : P6800XXXX PHONE : unknown
PHONE : P6800XXXX
Check the connection of RF coaxial cable
PHONE : unknown
Check the CP_VSD1,CP_VSD2_1.8V CP_VSD1 (C336) =0.9~1.4V CP_VSD2_1.8V (C337) = 1.8V
No
Replace the UCP300
Yes
Check VREF VREF (C345) = 600mV
No
Replace the UCP300
YES
Change the board
Yes
END

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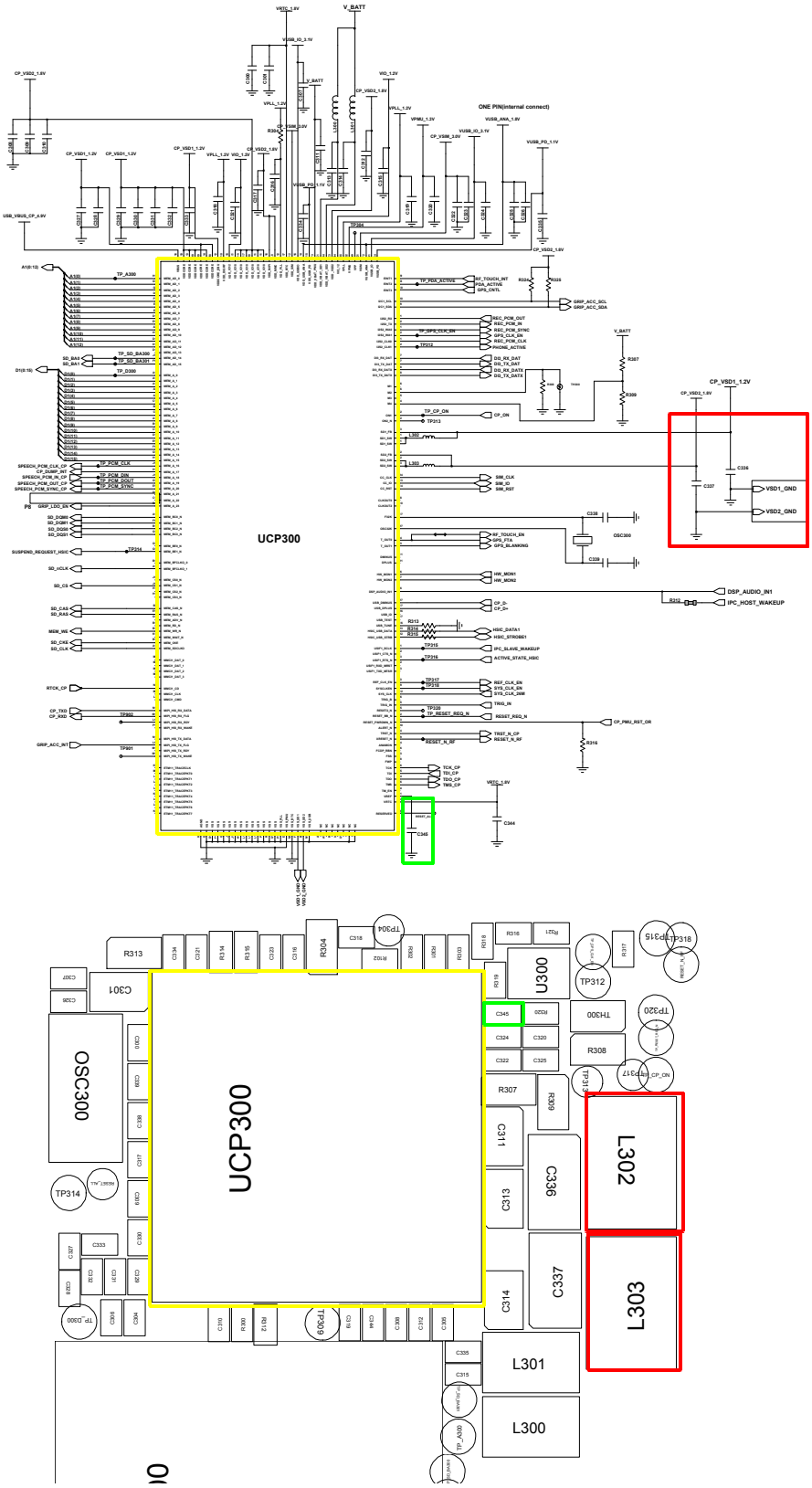

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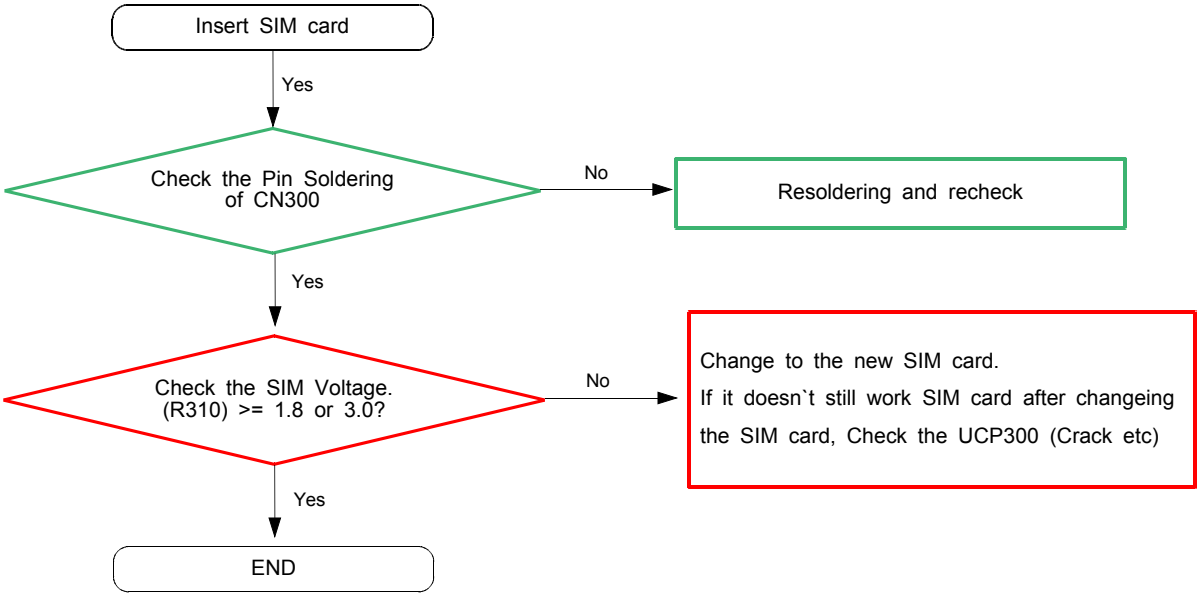
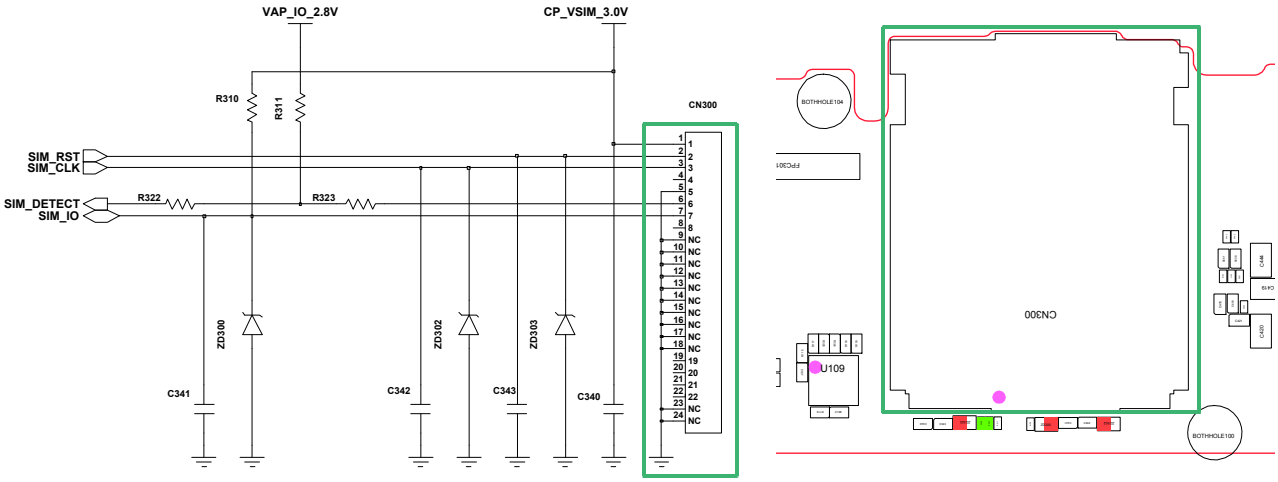
8-3-4. Sim Part


Insert SIM card
Yes
Check the Pin Soldering of CN300
No
Resoldering and recheck
Yes
Check the SIM Voltage. (R310) >= 1.8 or 3.0?
No
Change to the new SIM card.
If it doesn`t still work SIM card after changeing the SIM card, Check the UCP300 (Crack etc)
Yes
END



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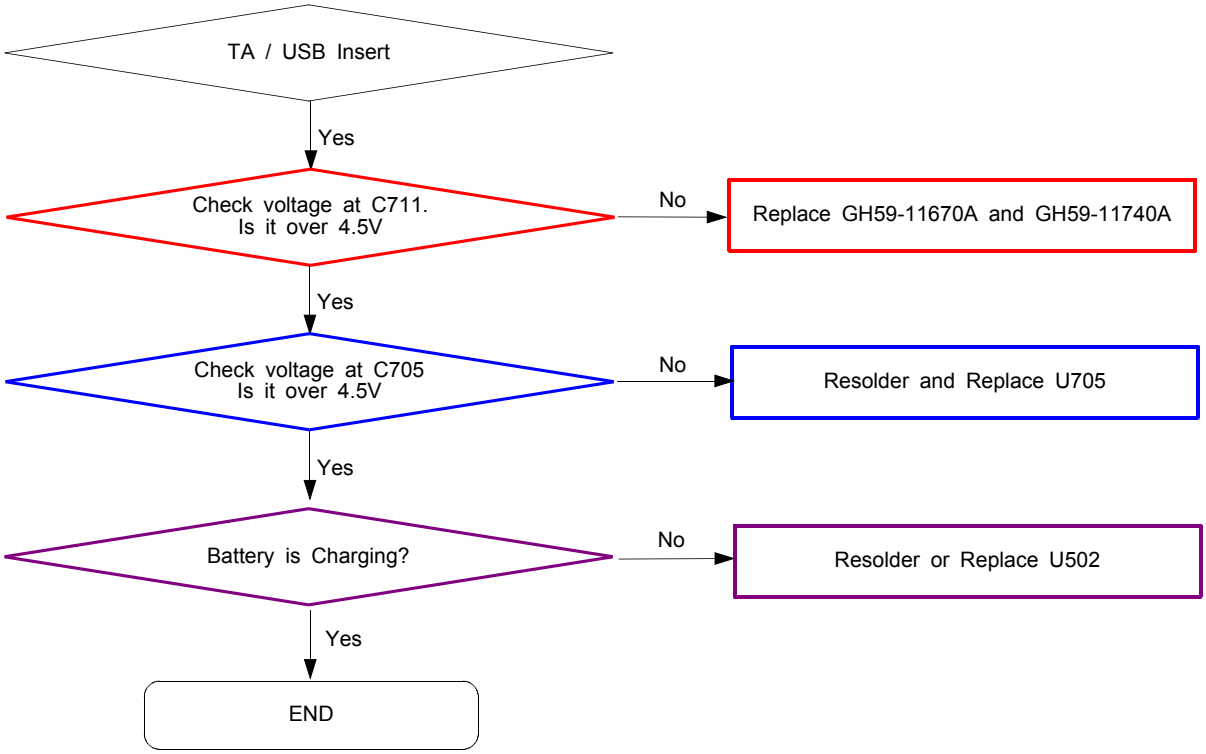
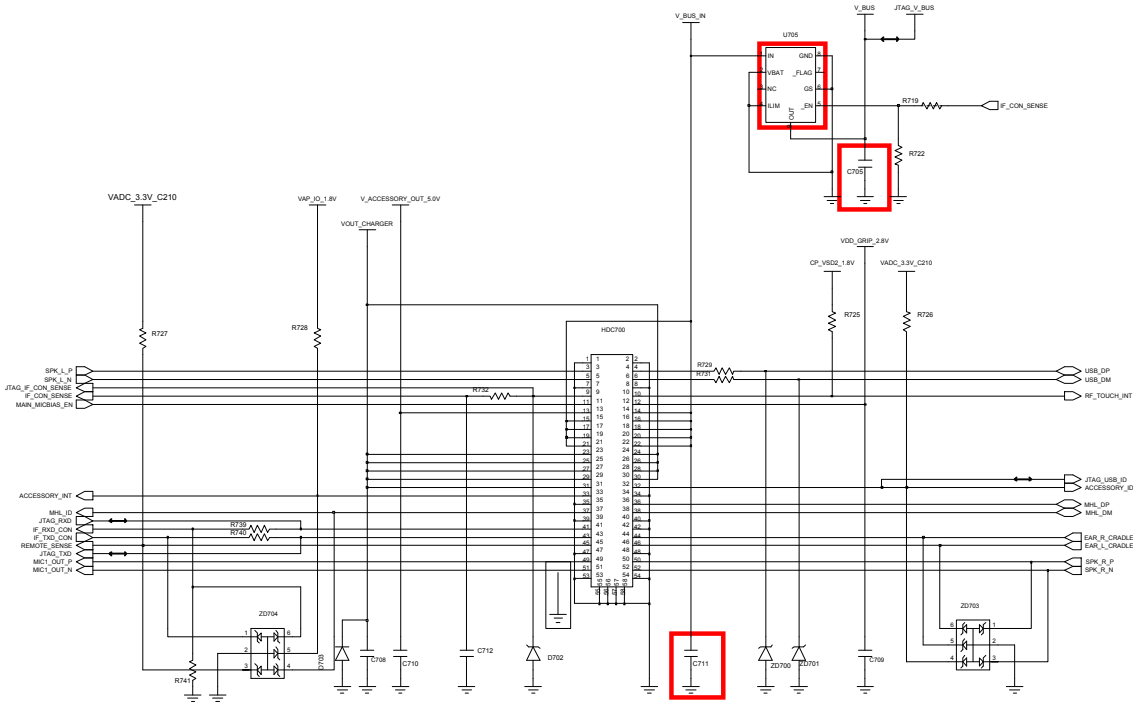
8-3-5. Charging Part





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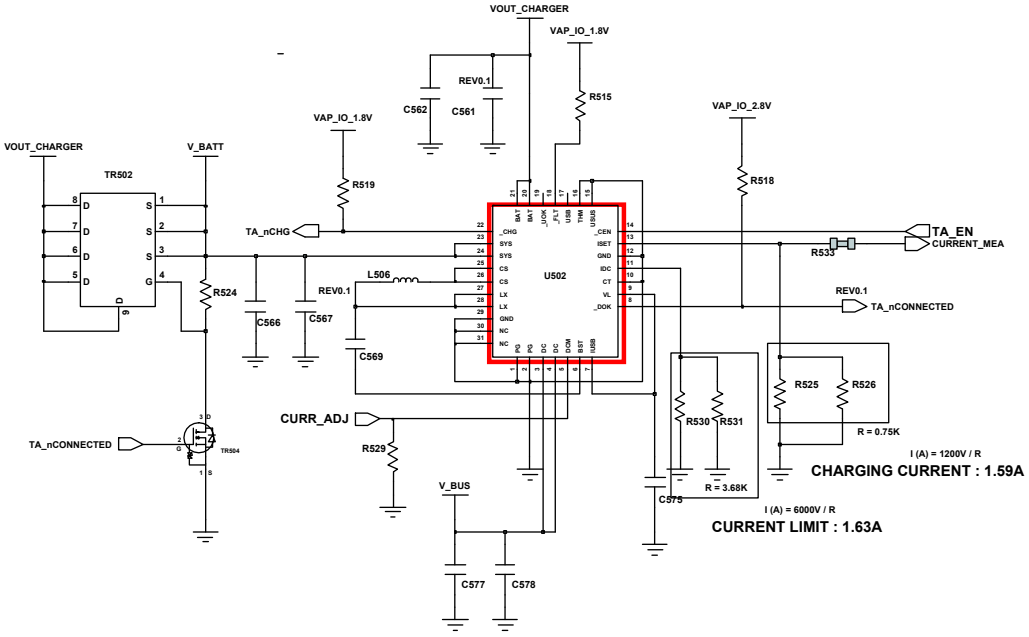

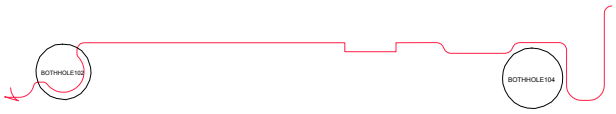

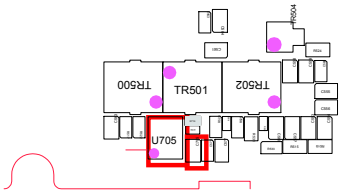

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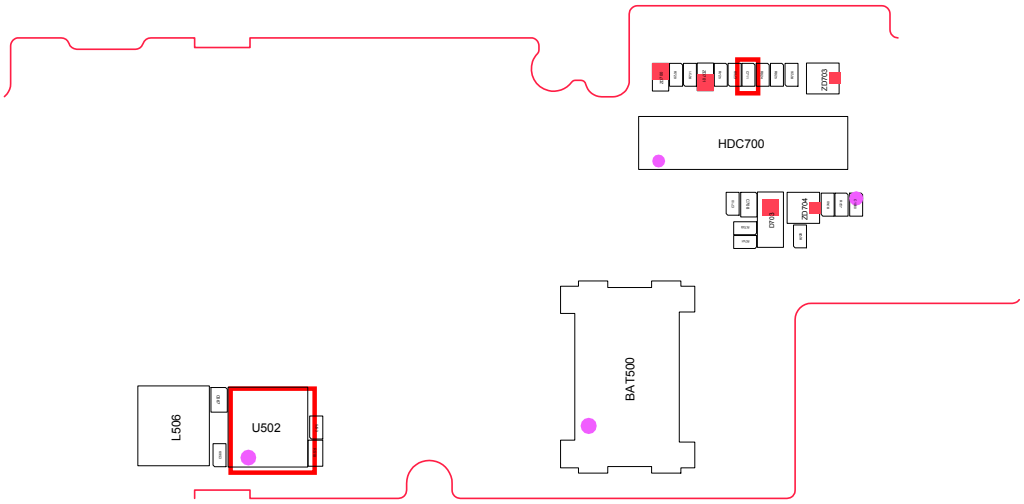

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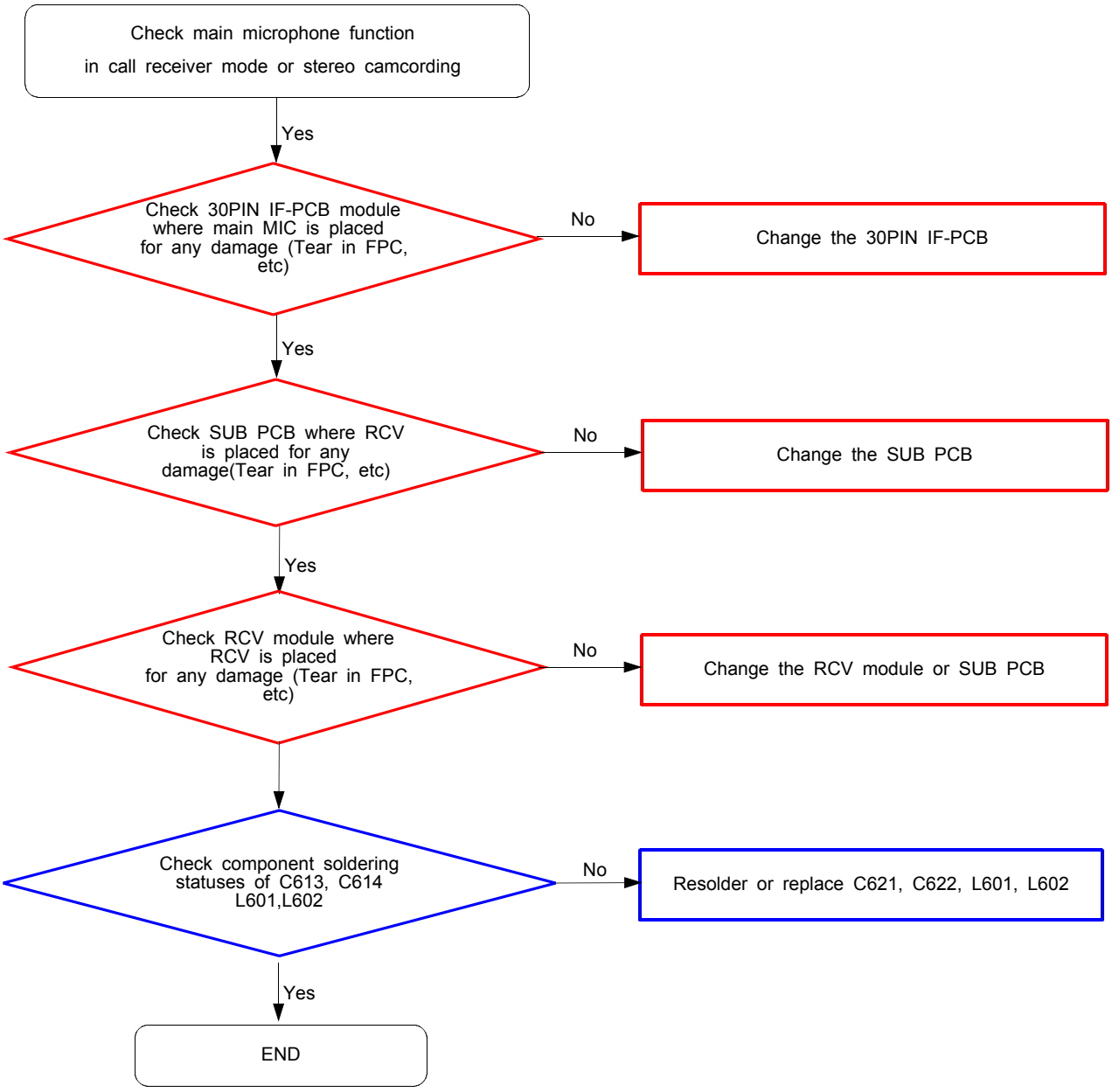
8-3-6. Microphone Part (Main MIC)


Check main microphone function
in call receiver mode or stereo camcording
Yes
Check 30PIN IF-PCB module where main MIC is placed for any damage (Tear in FPC, etc)
No
Change the 30PIN IF-PCB
Yes
Check SUB PCB where RCV is placed for any damage(Tear in FPC, etc)
No
Change the SUB PCB
Yes
Check RCV module where RCV is placed for any damage (Tear in FPC, etc)
No
Change the RCV module or SUB PCB
Check component soldering statuses of C613, C614 L601,L602
No
Resolder or replace C621, C622, L601, L602
Yes
END

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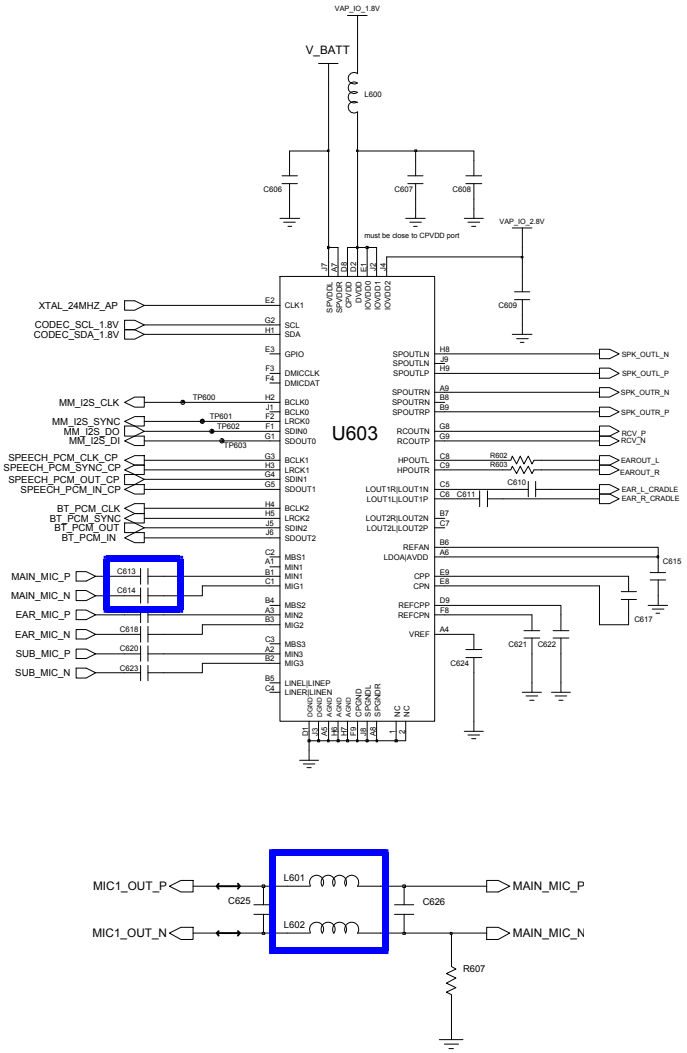

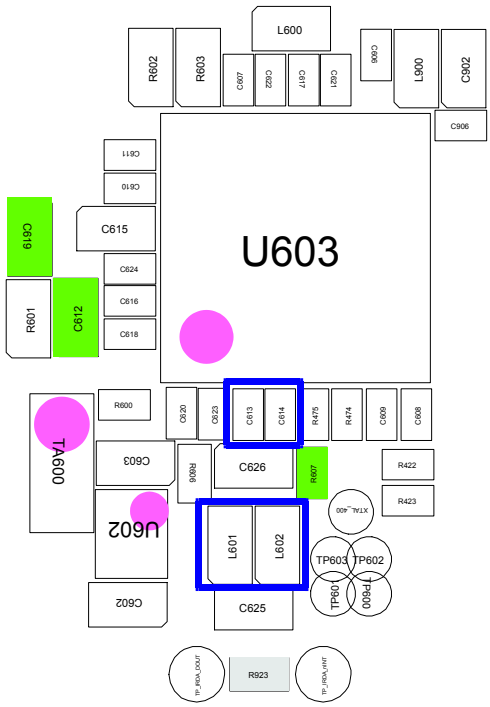

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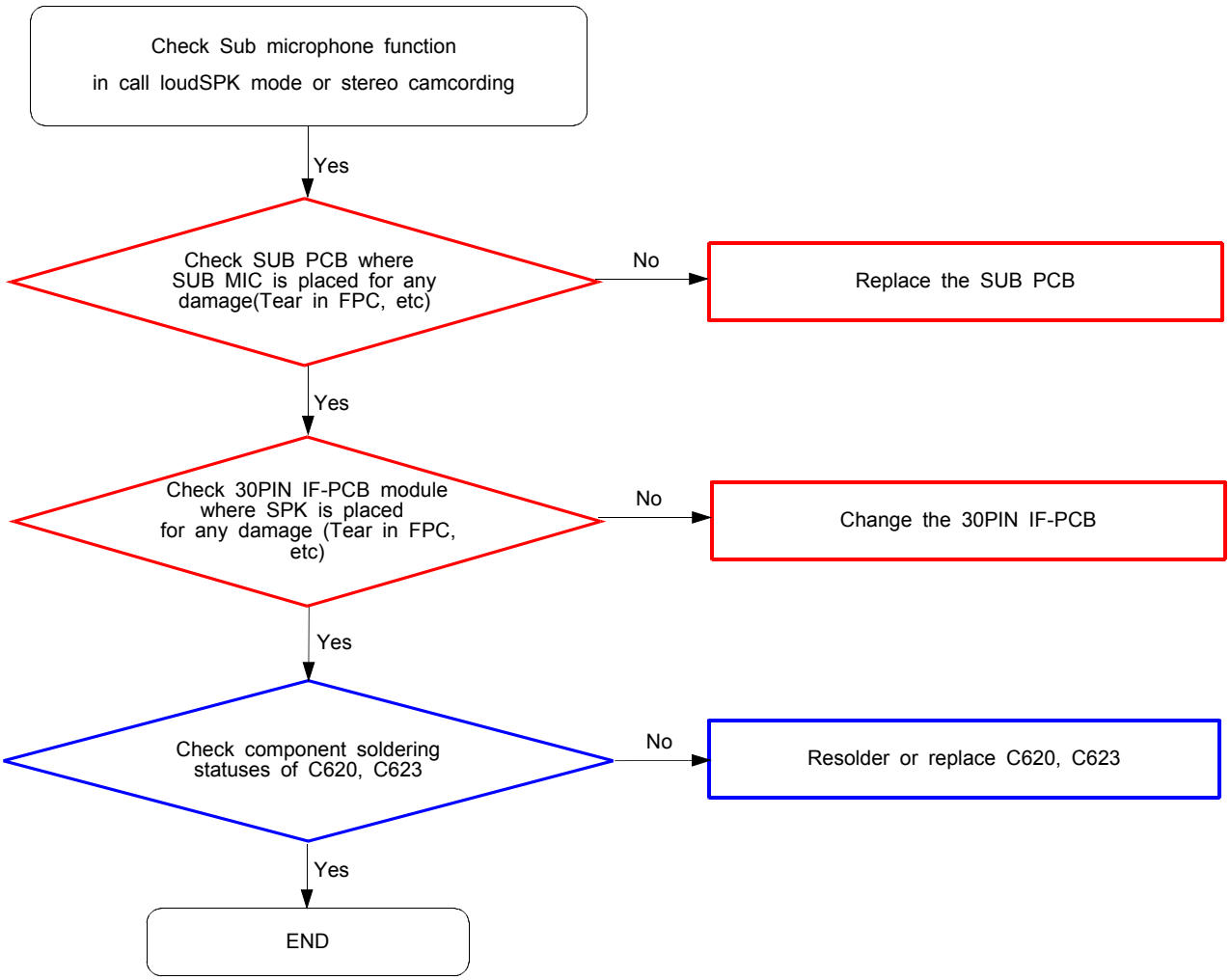
8-3-6-1. Microphone Part (SUB MIC)


Check Sub microphone function
in call loudSPK mode or stereo camcording
Yes
Check SUB PCB where SUB MIC is placed for any damage(Tear in FPC, etc)
No
Replace the SUB PCB
Yes
Check 30PIN IF-PCB module where SPK is placed for any damage (Tear in FPC, etc)
No
Change the 30PIN IF-PCB
Yes
Check component soldering statuses of C620, C623
No
Resolder or replace C620, C623
Yes
END

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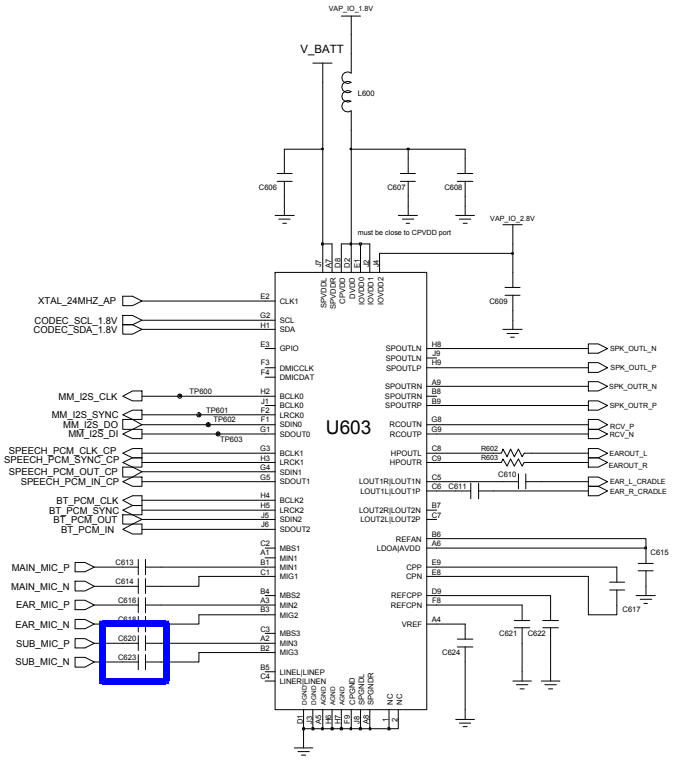

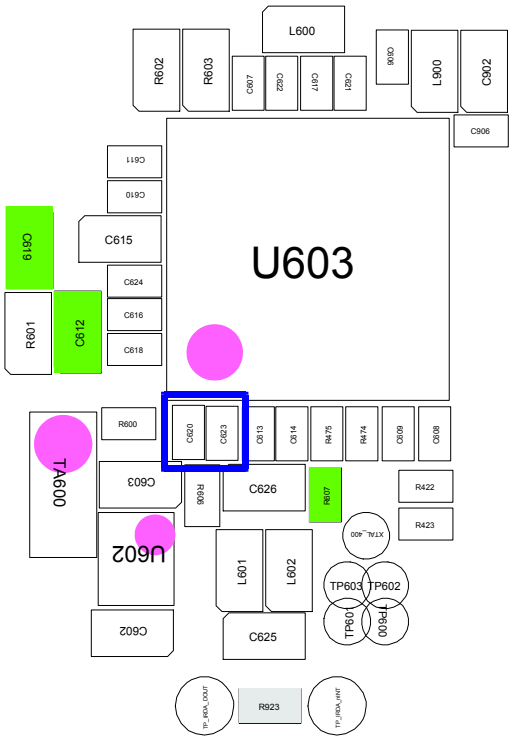

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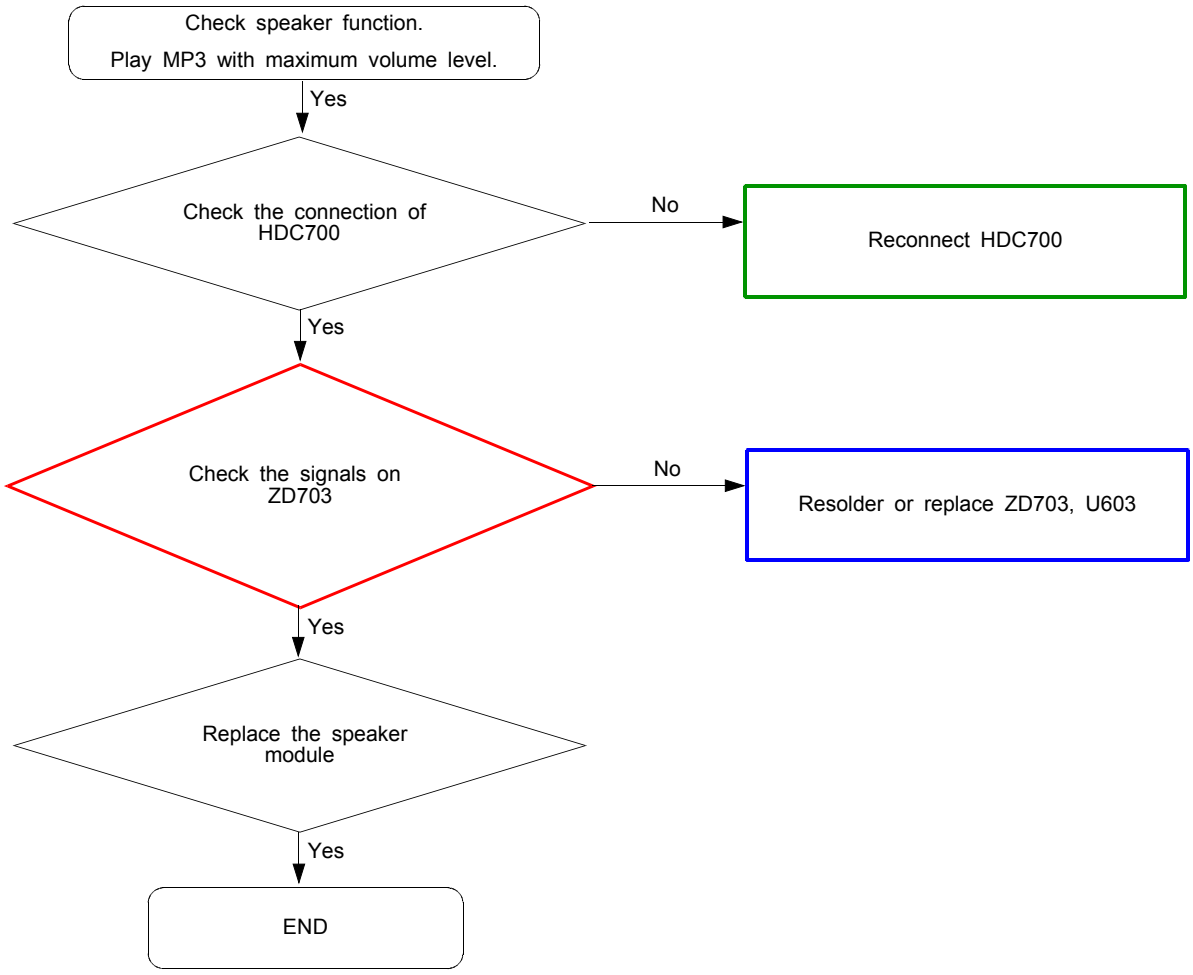
8-3-7. Speaker Part



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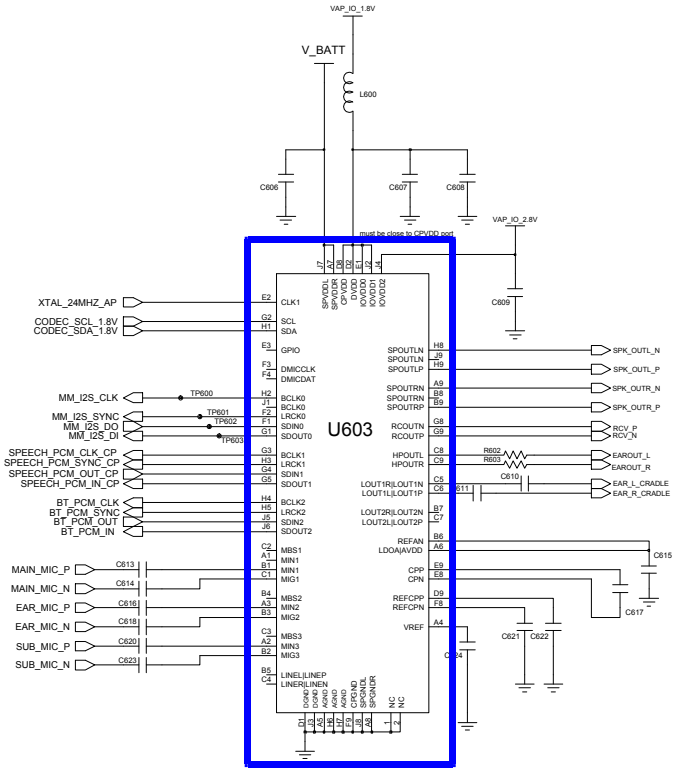
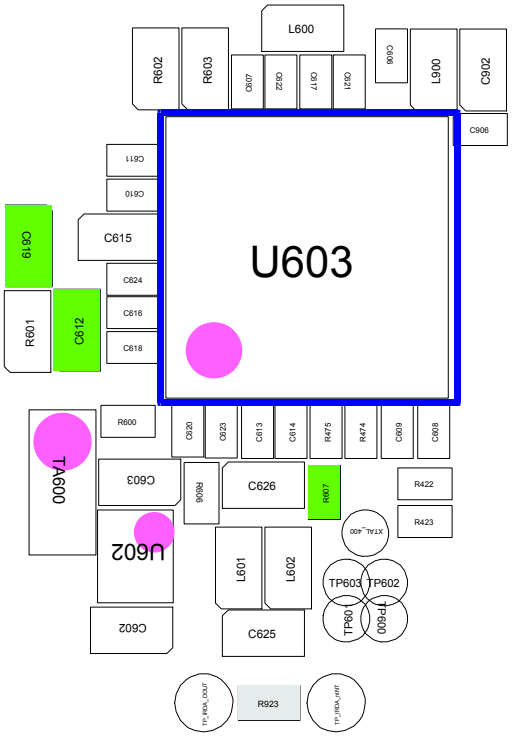
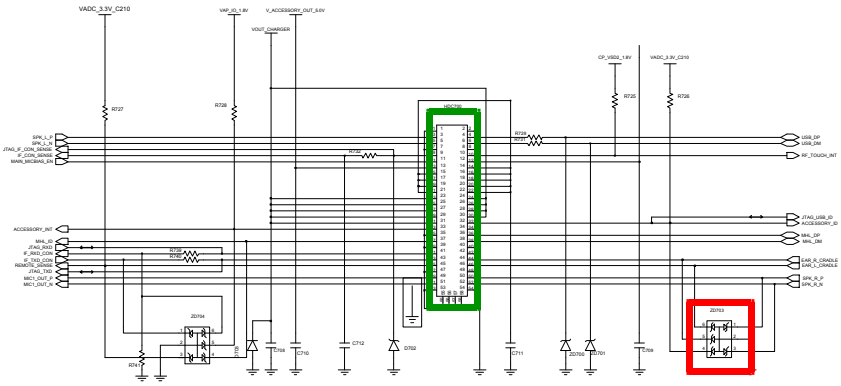

VAP_IO_1.8V
V_BATT
L600
C606
C607
C608
VAP_IO_2.8V
C609
XTAL_24MHZ_AP
CODEC_SCL_1.8V
CODEC_SDA_1.8V
MM_I2S_CLK
MM_I2S_SYNC
MM_I2S_DO
MM_I2S_DI
TP600
TP601
TP602
TP603
SPEECH_PCM_CLK_CP
SPEECH_PCM_SYNC_CP
SPEECH_PCM_OUT_CP
SPEECH_PCM_IN_CP
BT_PCM_CLK
BT_PCM_SYNC
BT_PCM_OUT
BT_PCM_IN
MAIN_MIC_P
MAIN_MIC_N
EAR_MIC_P
EAR_MIC_N
SUB_MIC_P
SUB_MIC_N
C613
C614
C616
C618
C620
C623
U603
SPK_OUTL_N
SPK_OUTL_P
SPK_OUTR_N
SPK_OUTR_P
RCV_P
RCV_N
EAROUT_L
EAROUT_R
EAR_L_CRADLE
EAR_R_CRADLE
R602
R603
C610
C611
C615
C617
C621
C622
C624


L600
R602
R603
C907
C902
C906
C611
C610
C615
C619
C612
U603
R601
C624
C616
C618
R600
C920
C923
C613
C614
R475
R474
C609
C608
TA600
C603
C626
R607
R422
R423
U602
L601
L602
TP603
TP602
TP601
TP600
C602
C625
R923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V_ACCESSORY_OUT_5.0V
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R728
R729
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R732
R725
R726
HDC700
ZD703
ZD704
D702
D701
C712
C710
C711
C709
C708
R734
R735
R736
R737
R738
R739
R740
R741
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R760
R761
R762
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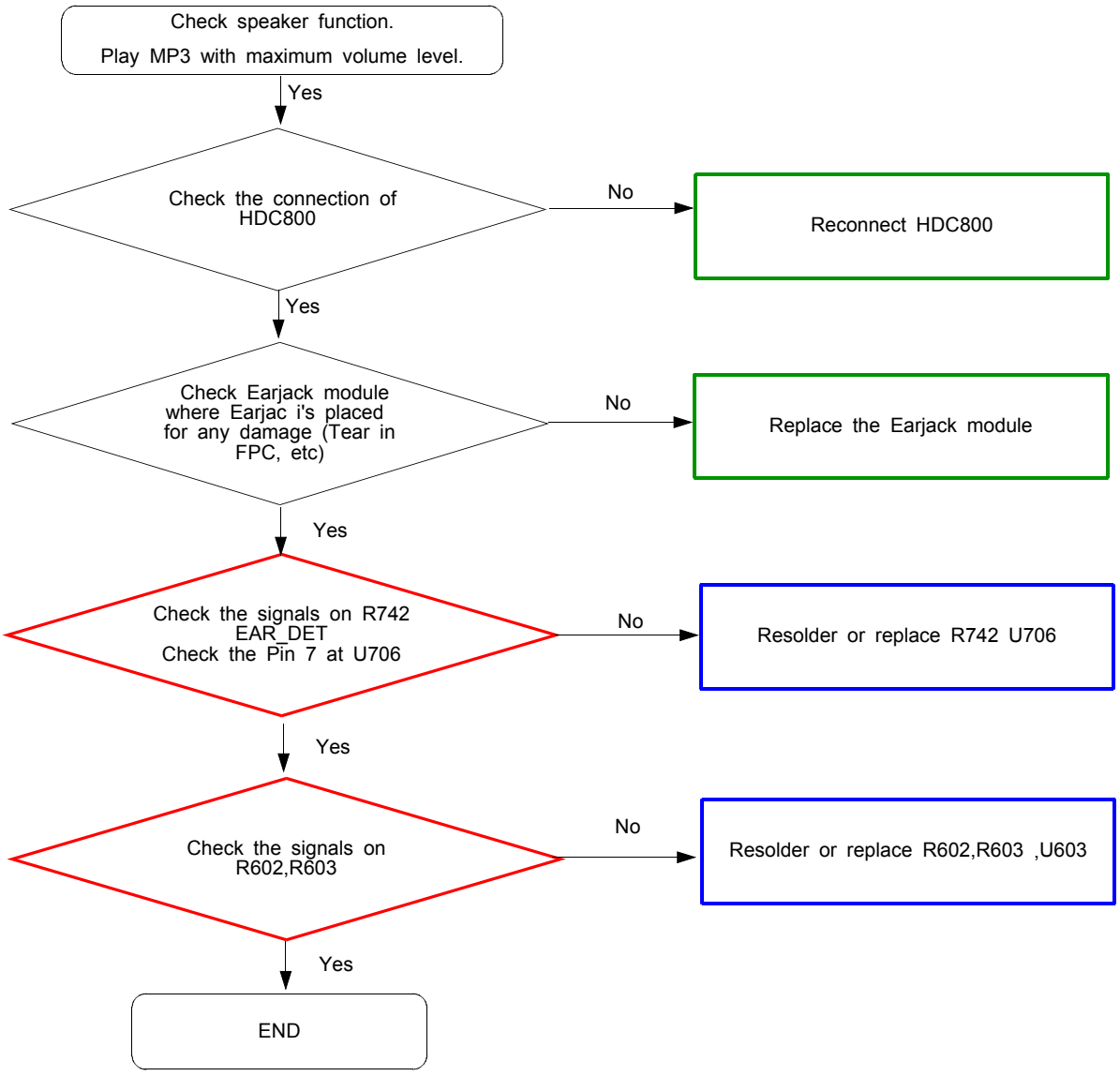
R773

8-3-8. Ear Part (RCV)



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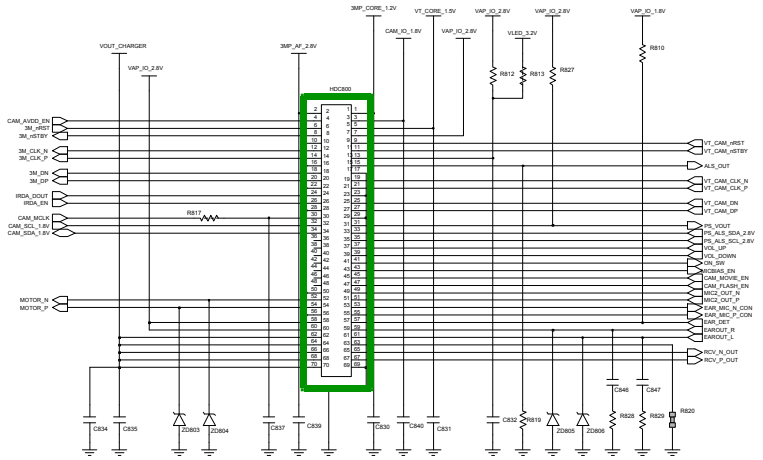

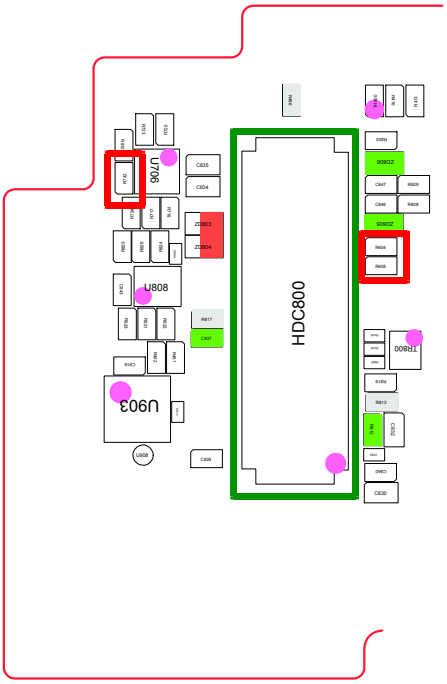

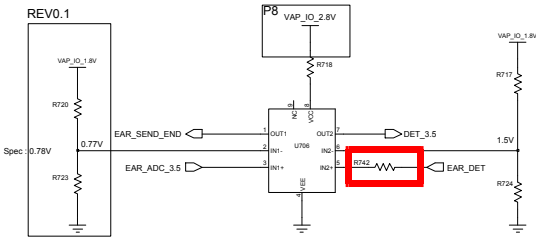

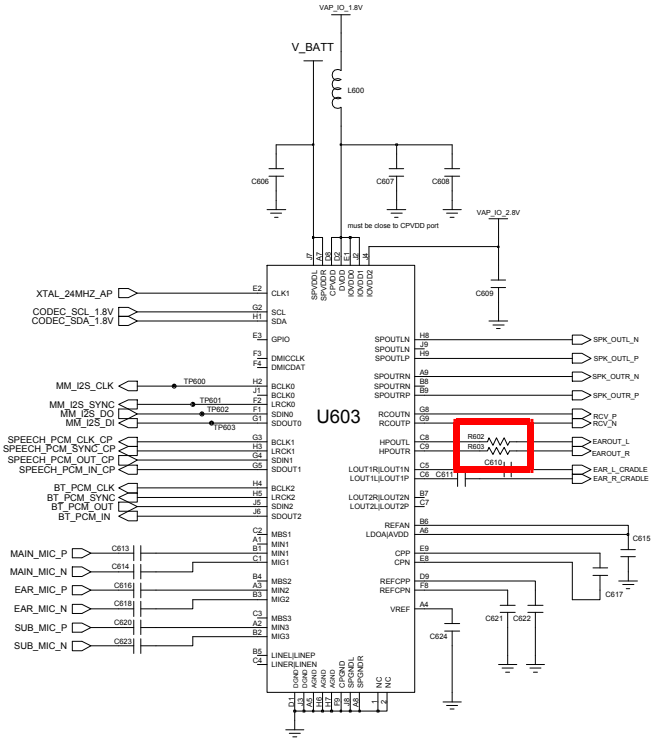

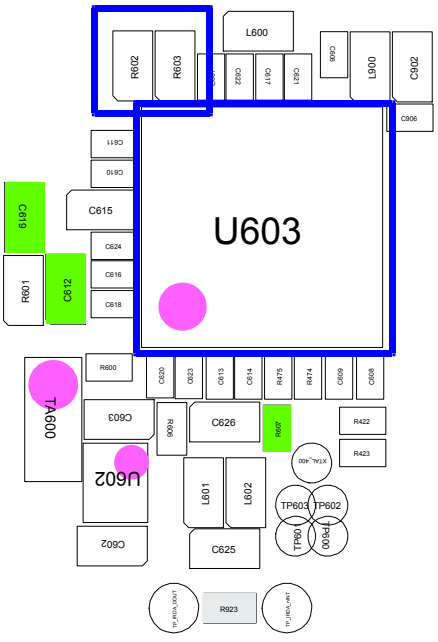

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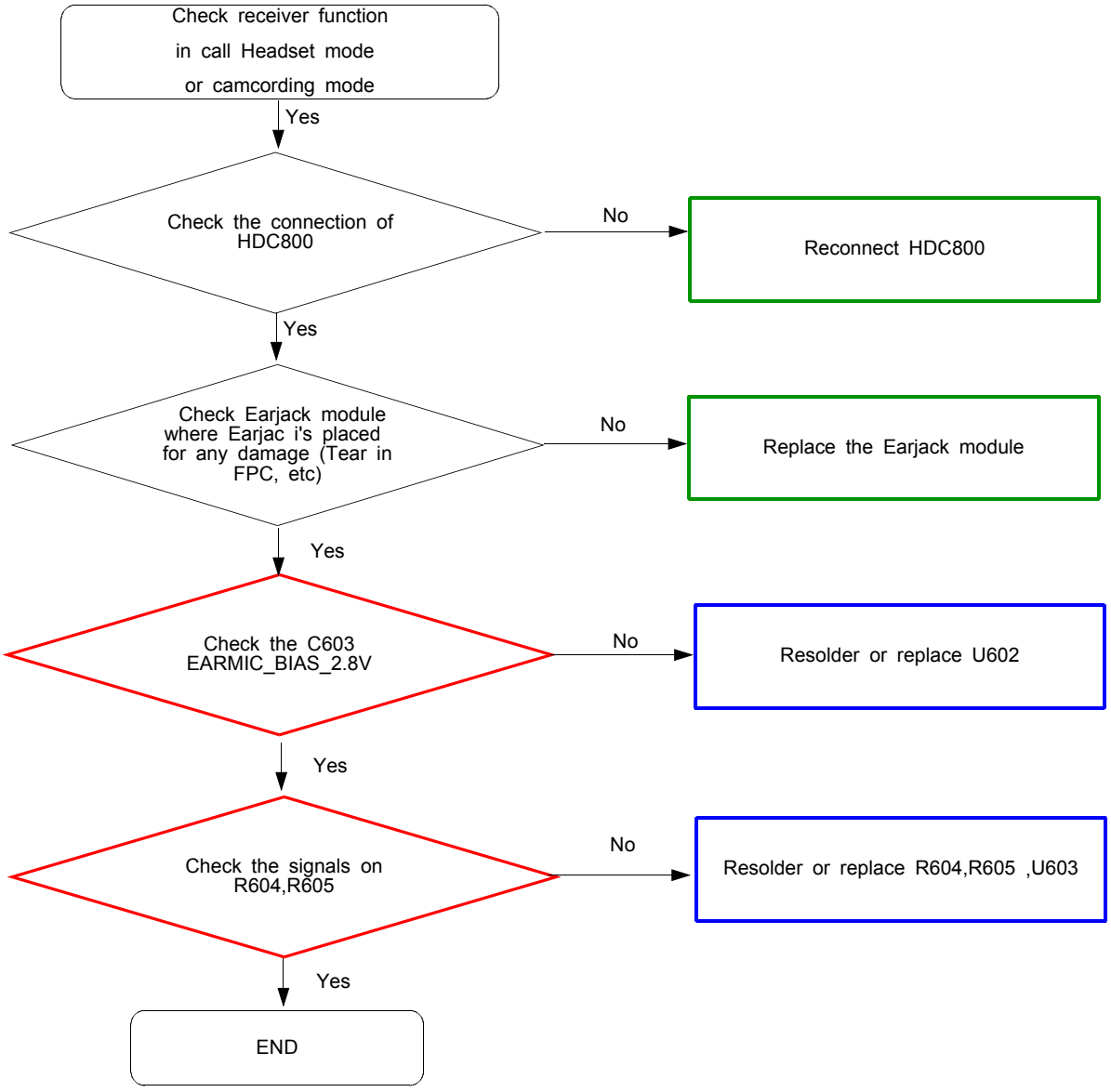
8-3-9. Ear Part (MIC)



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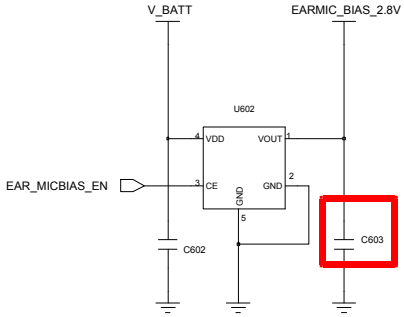

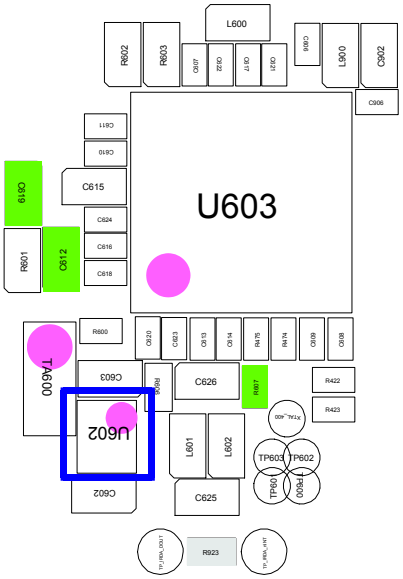

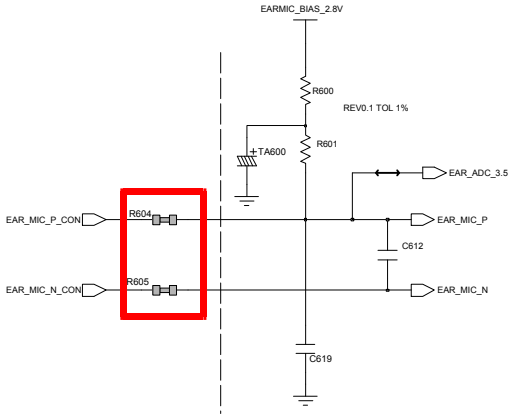

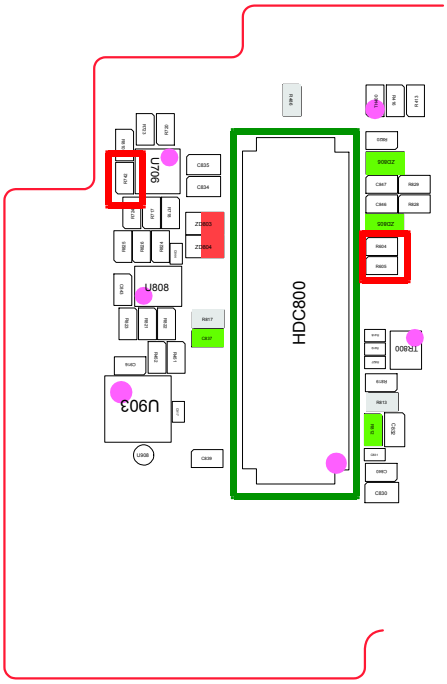

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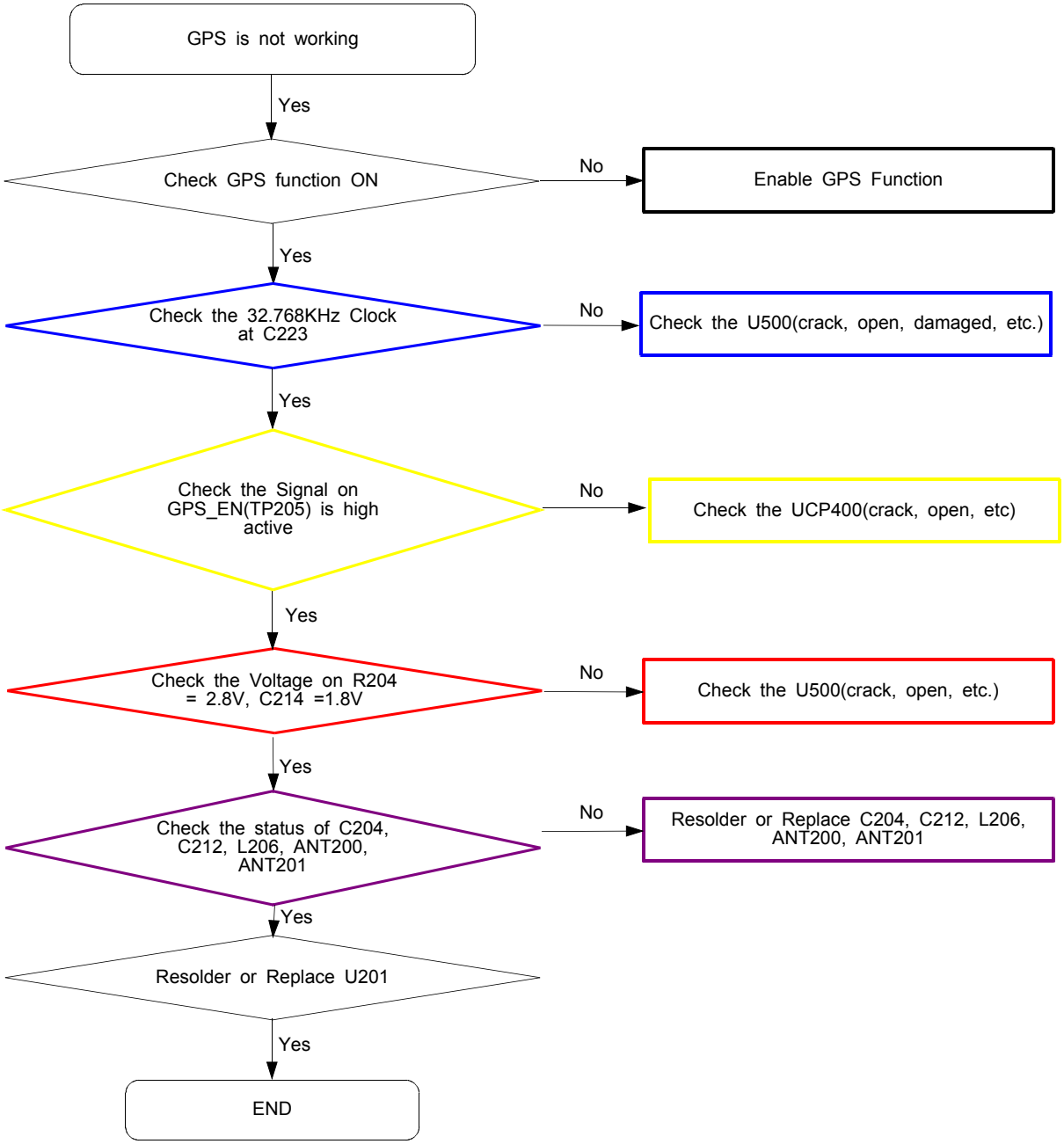
8-3-10. GPS



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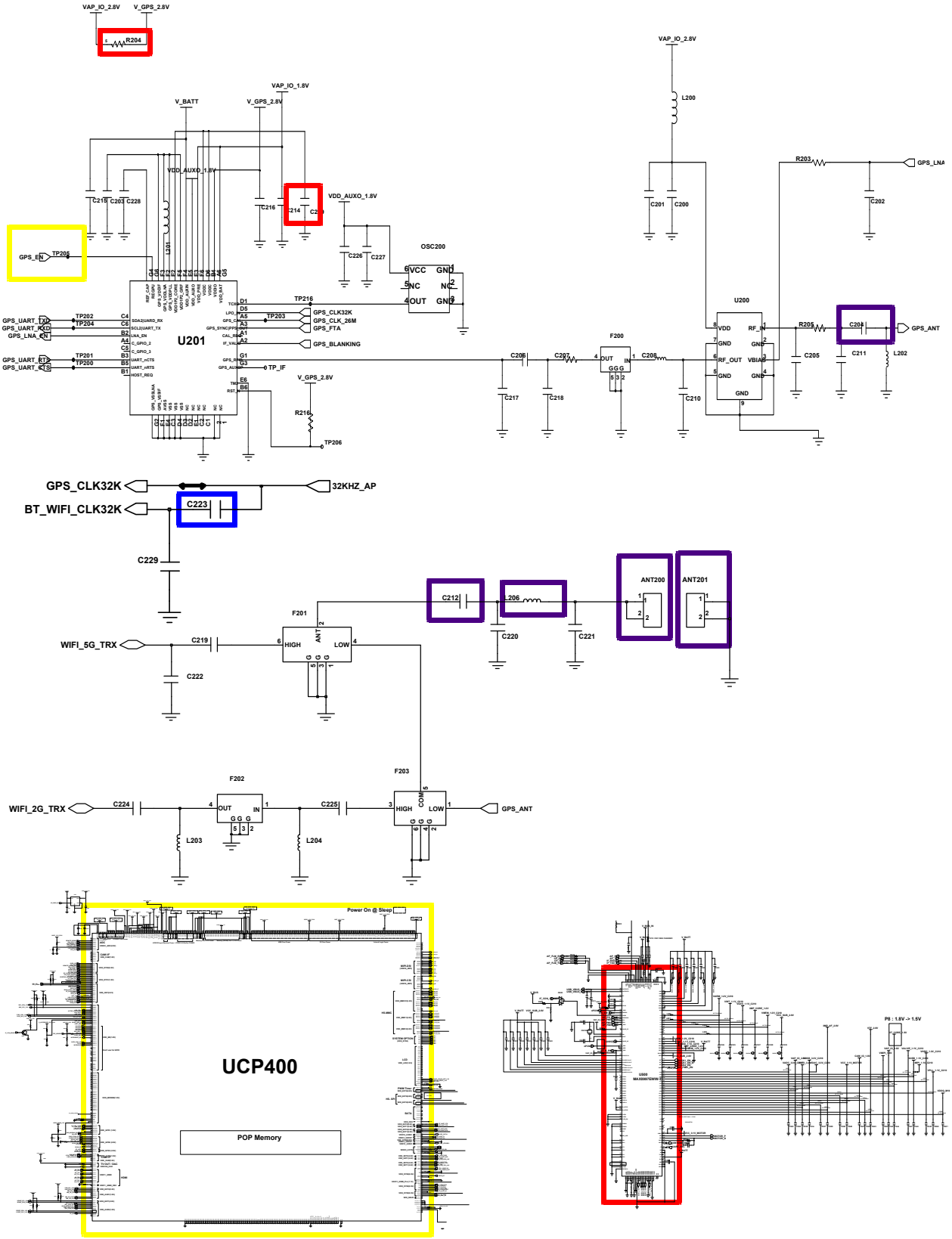

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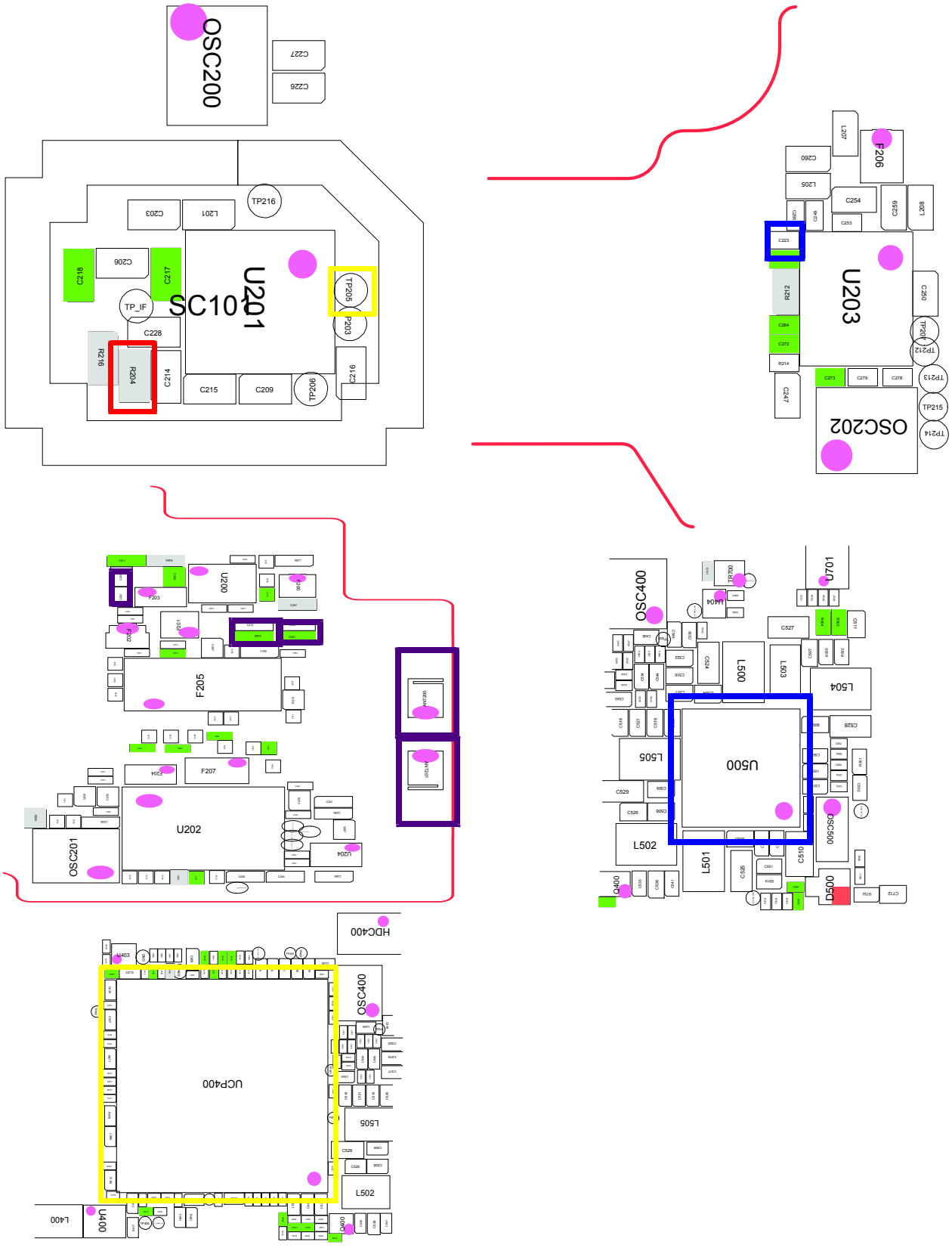

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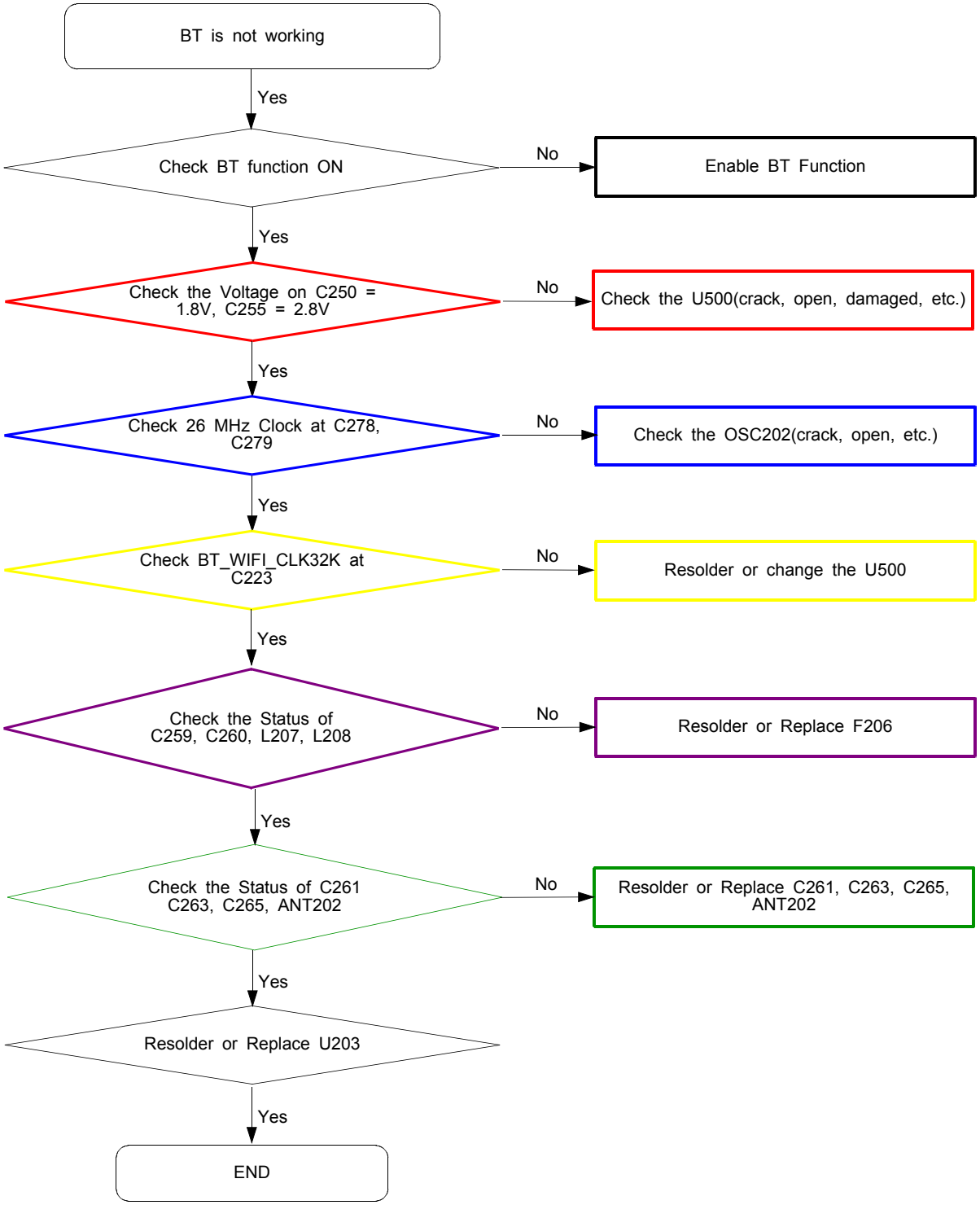
8-3-11. BT



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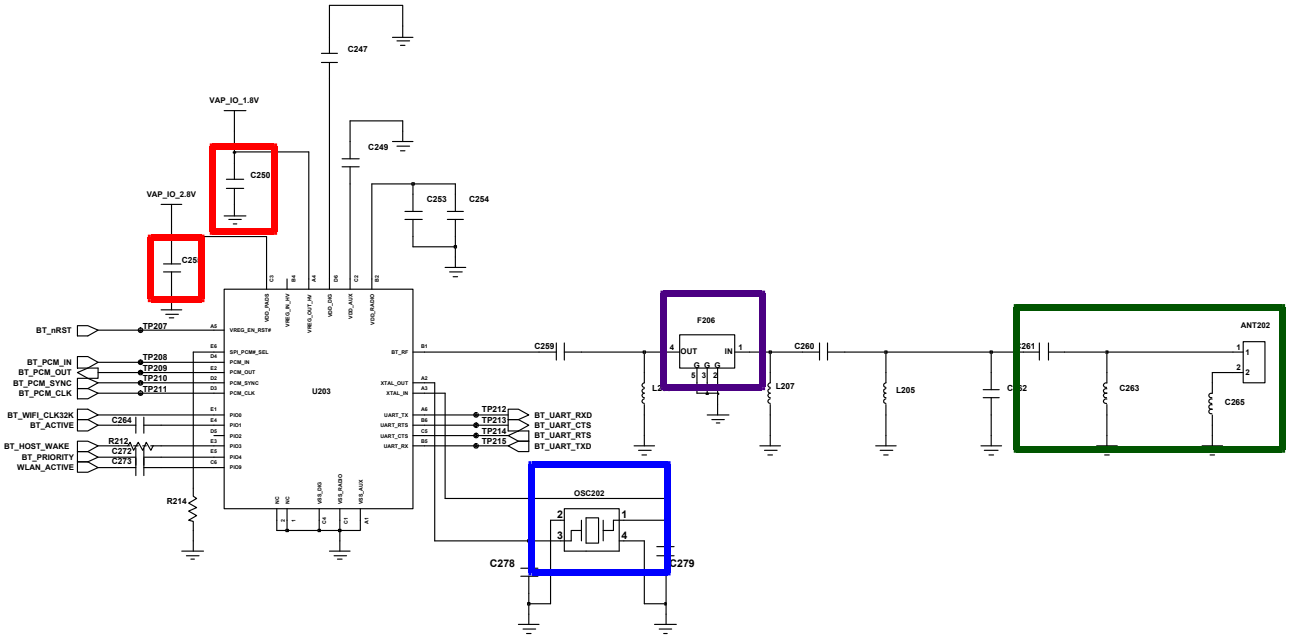

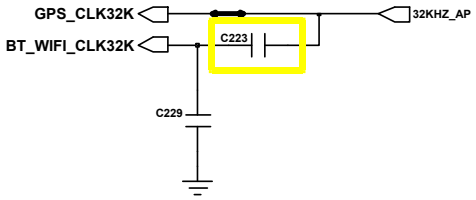

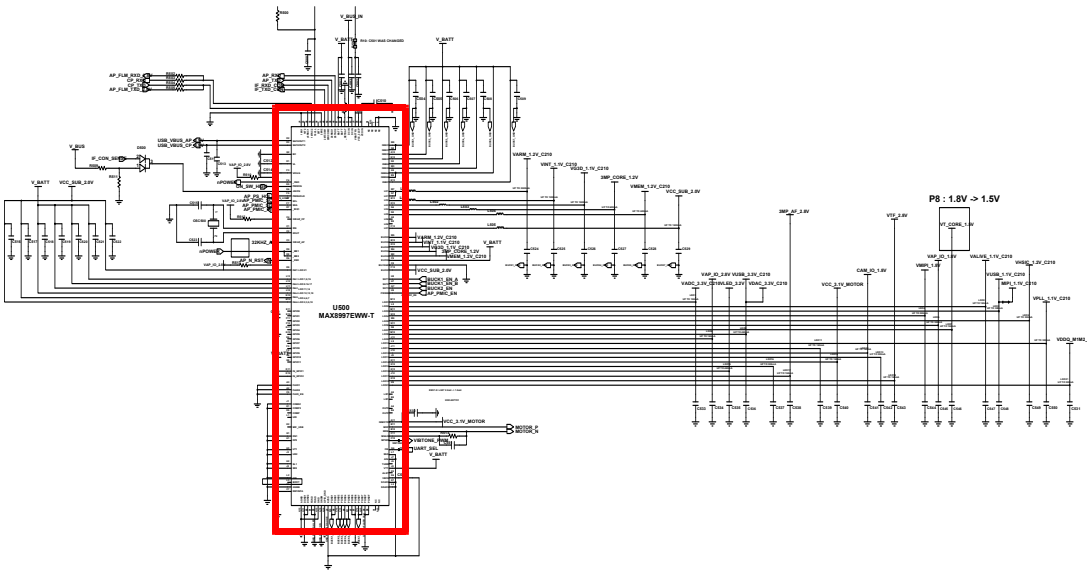

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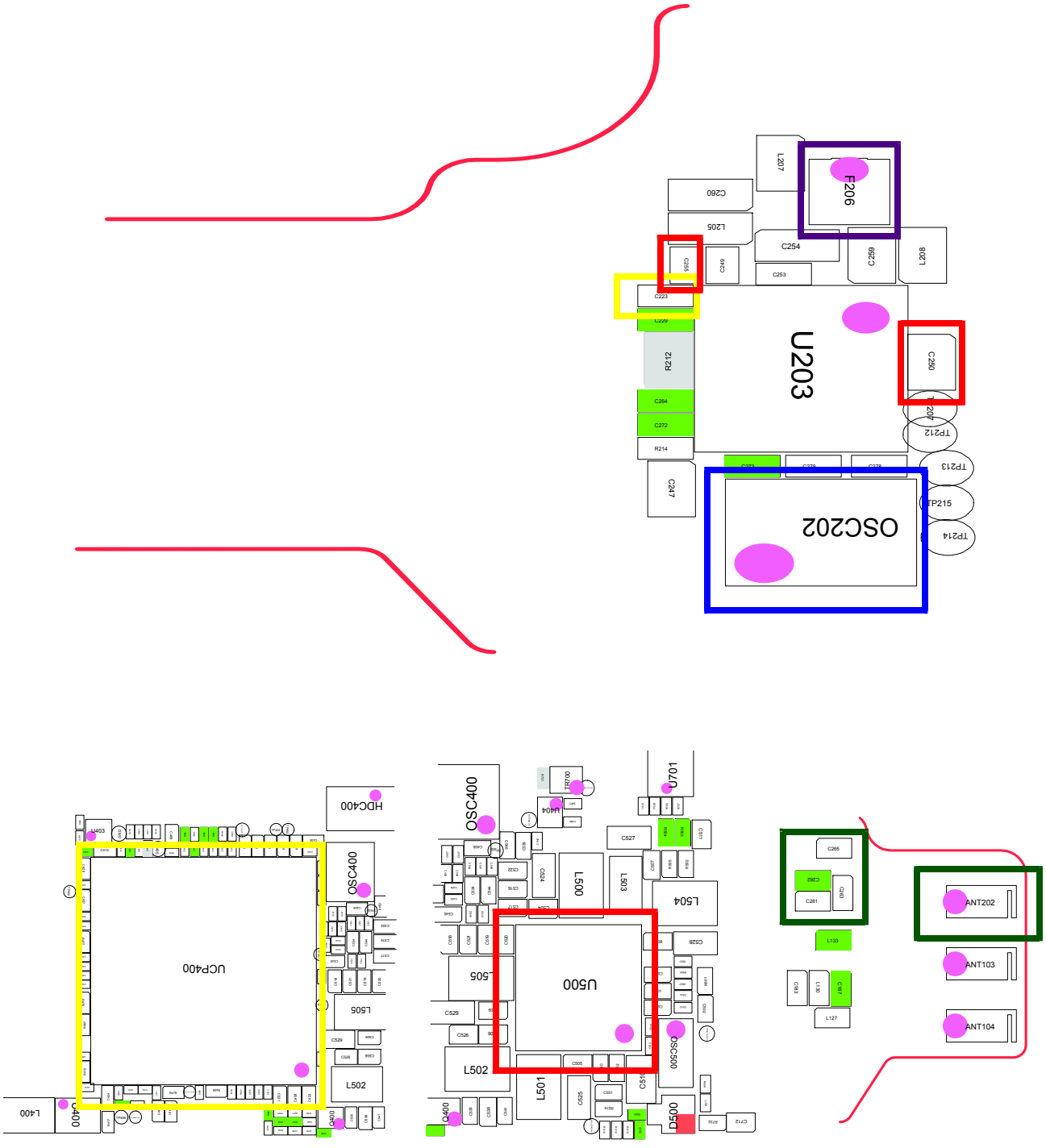

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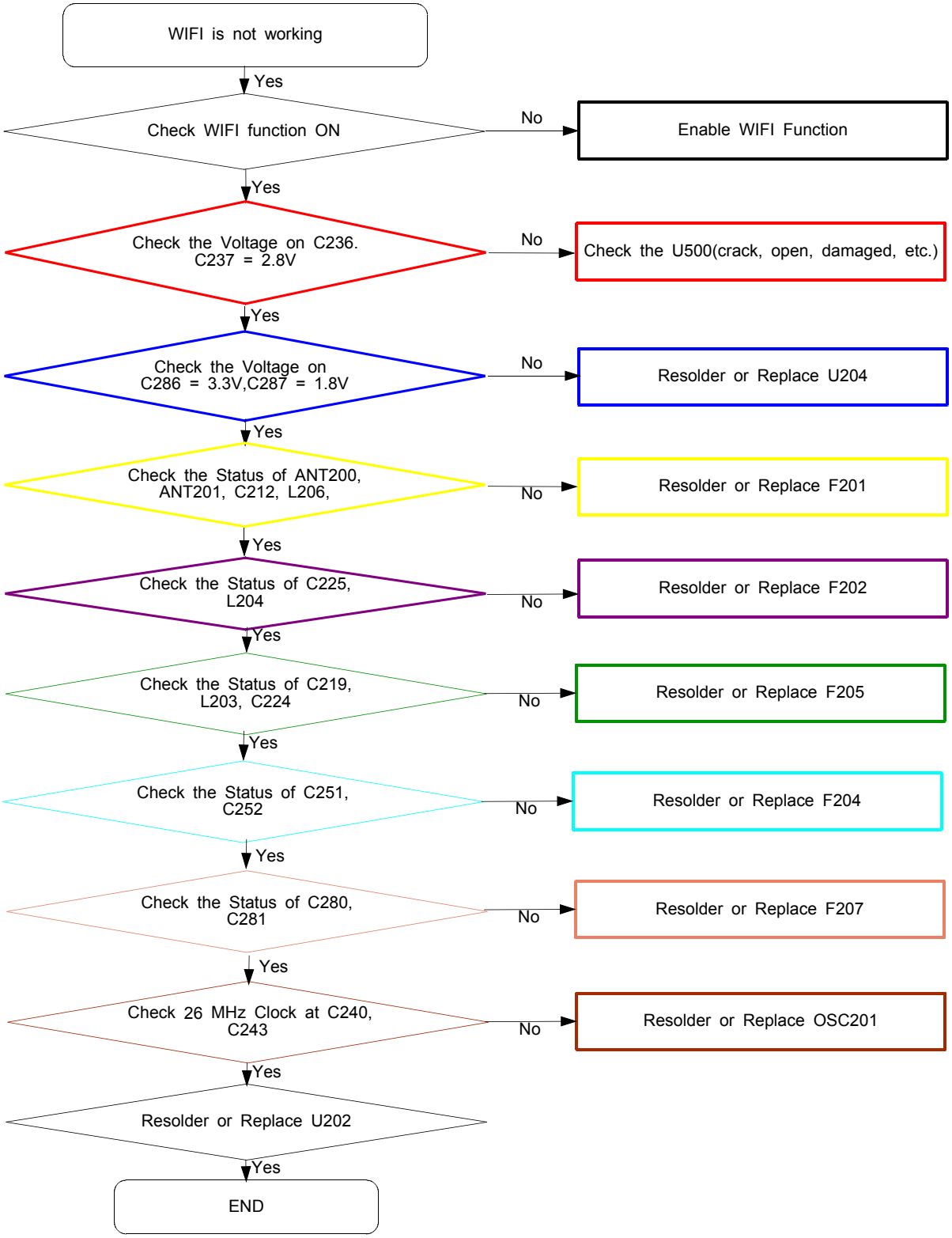
8-3-12. WIFI



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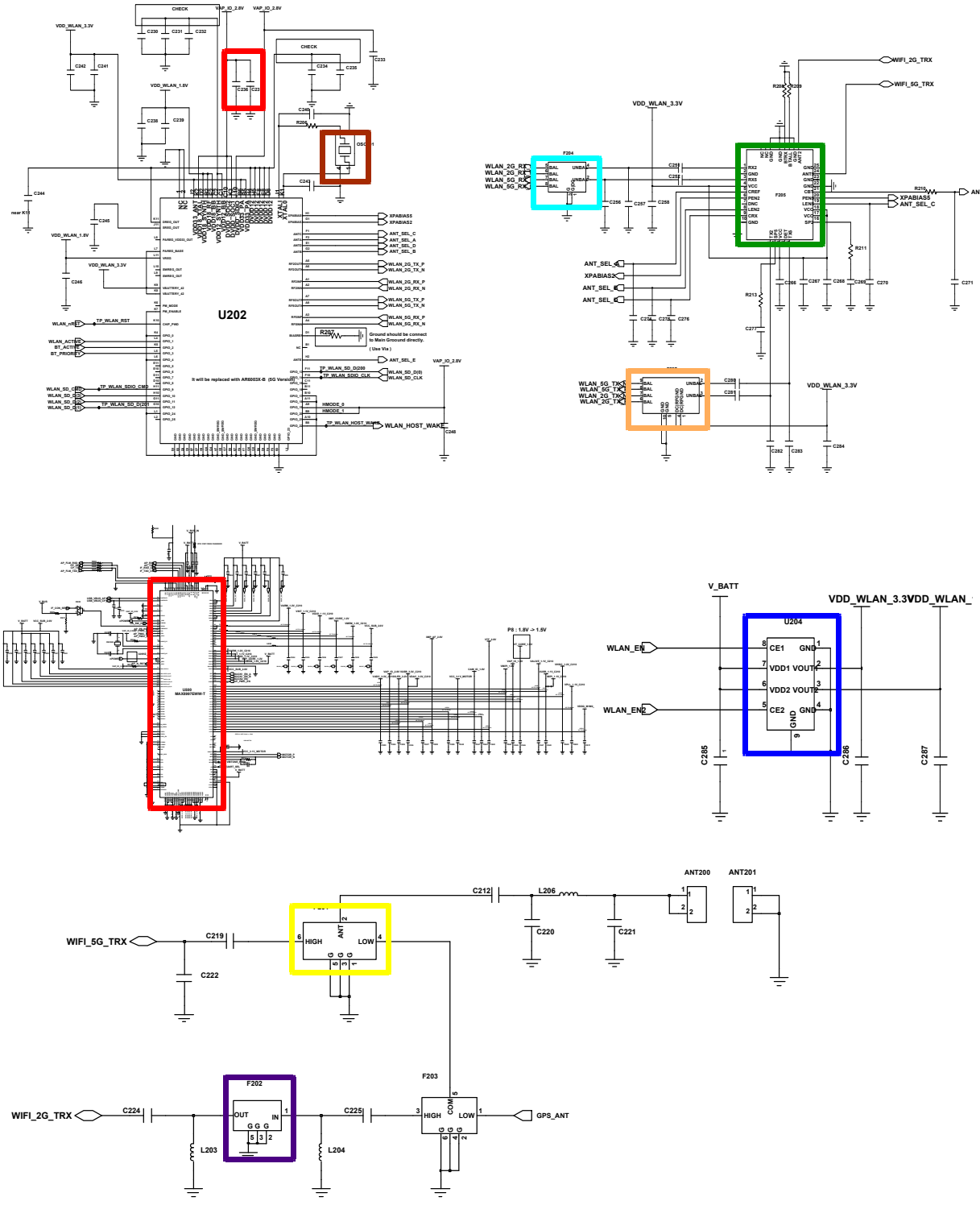

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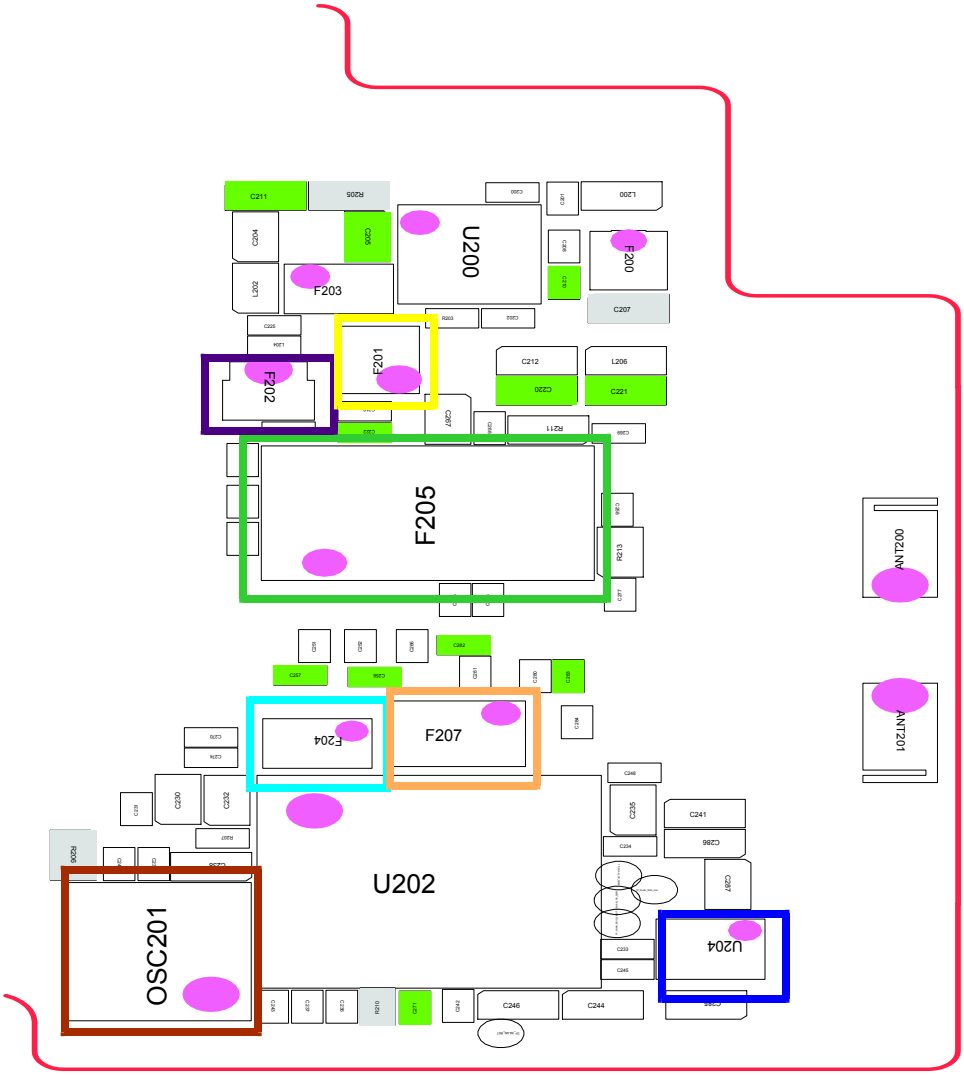

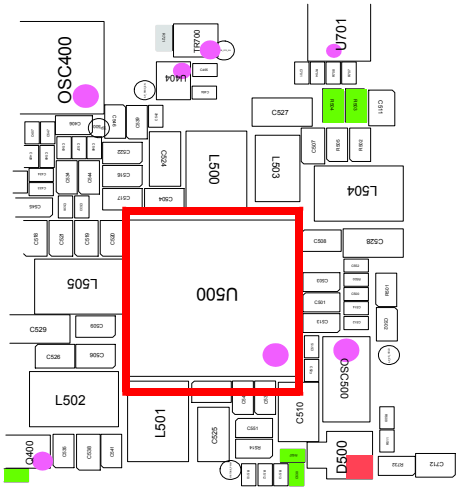

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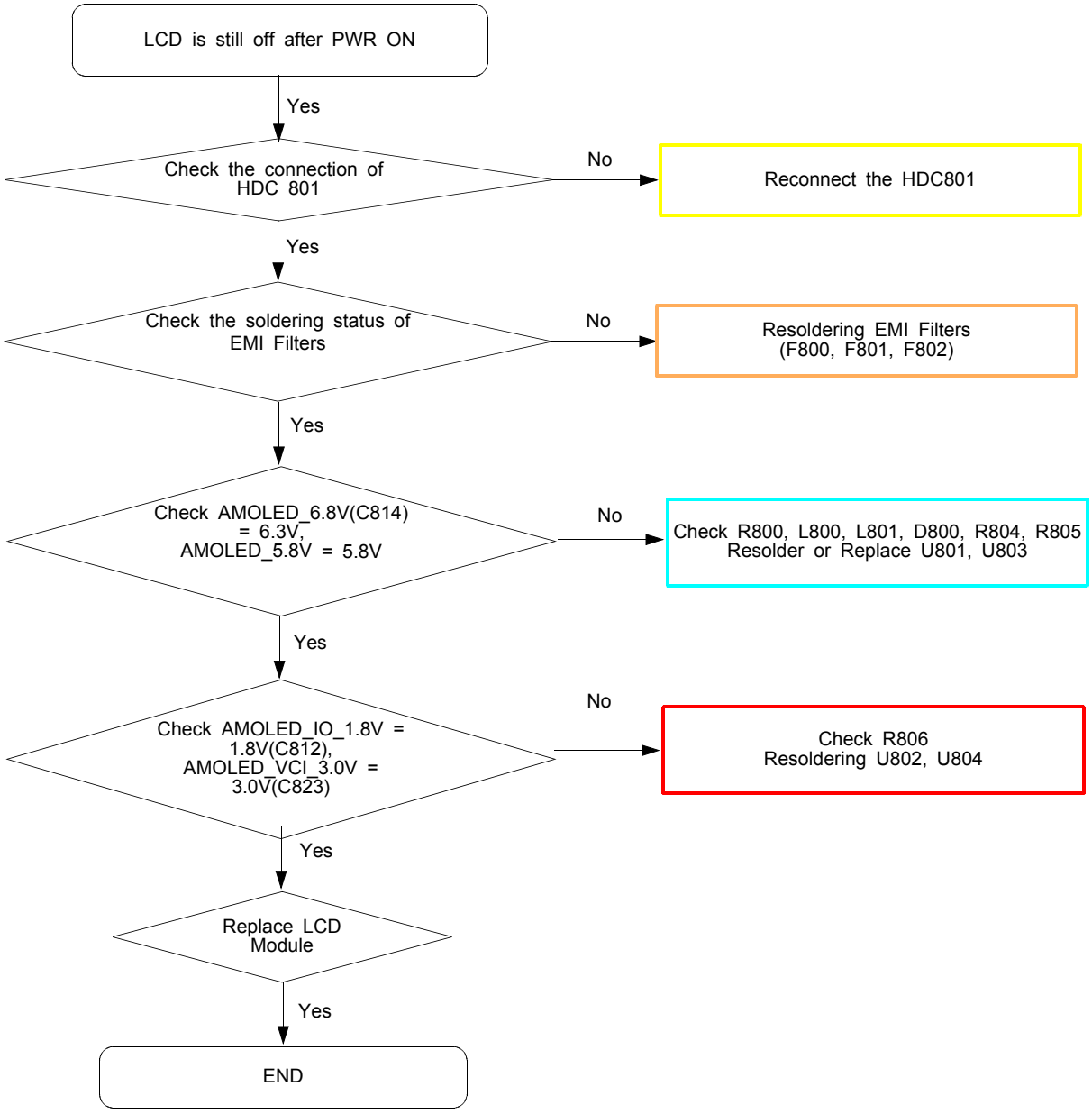
8-3-13. LCD



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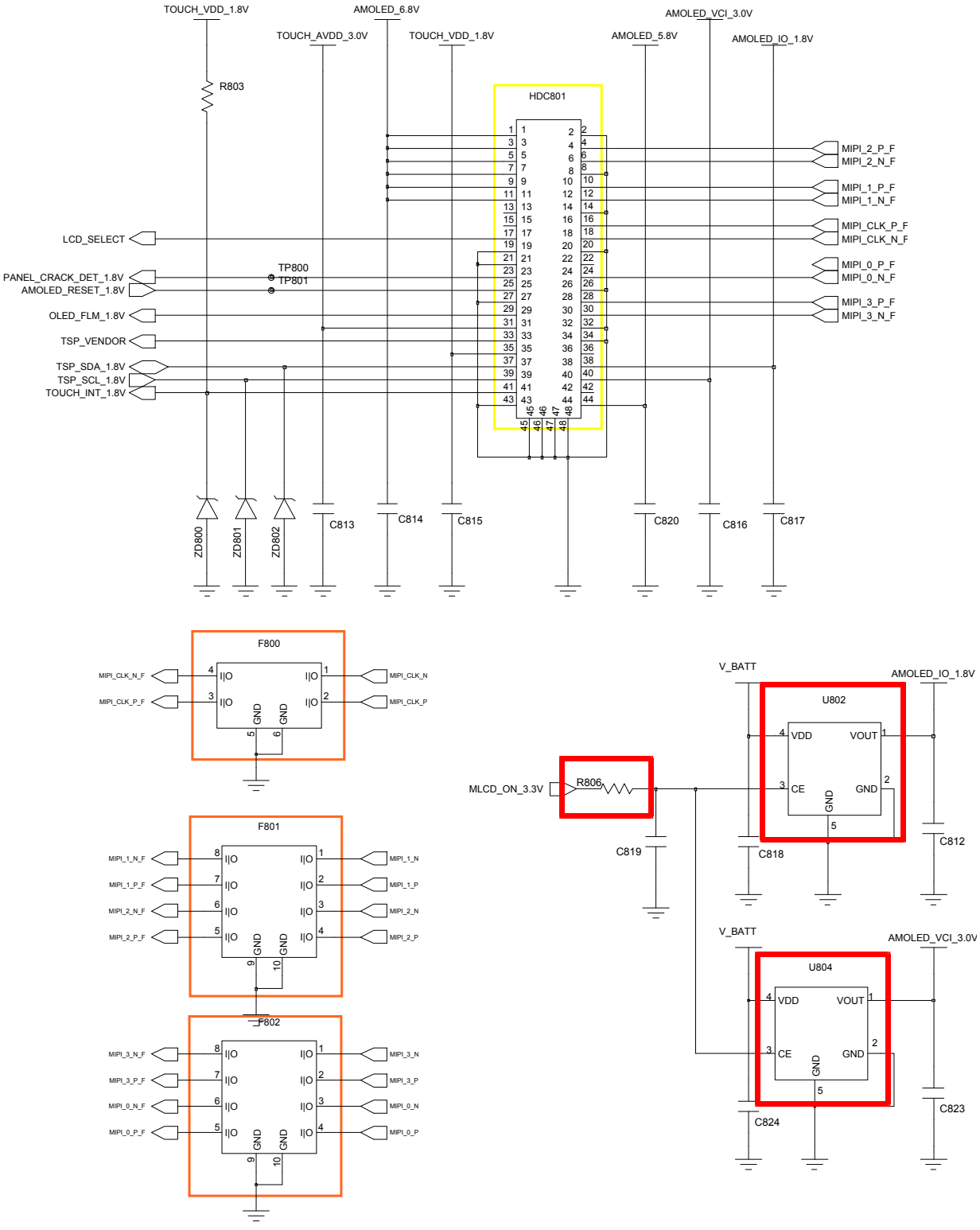

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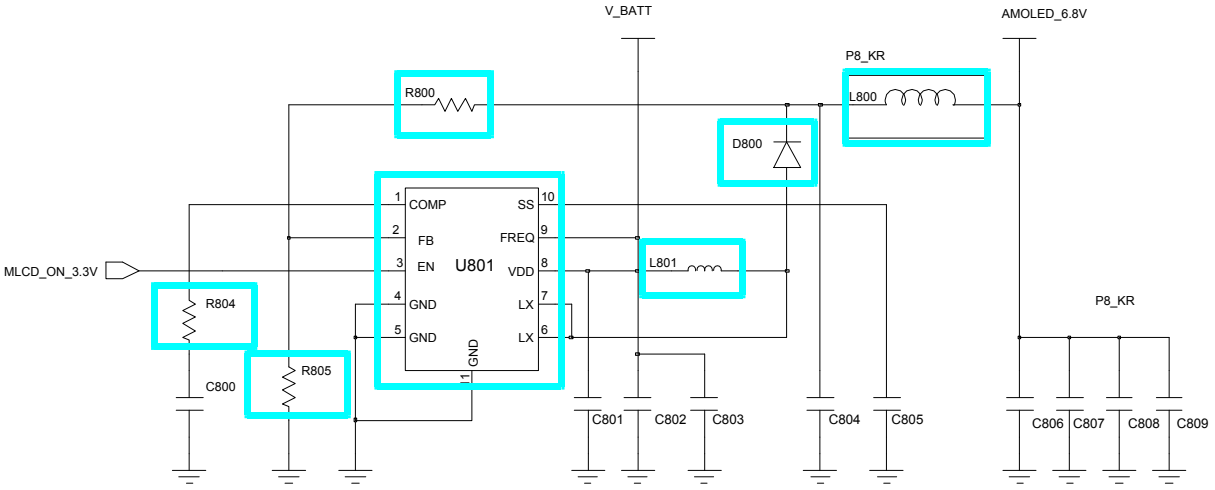

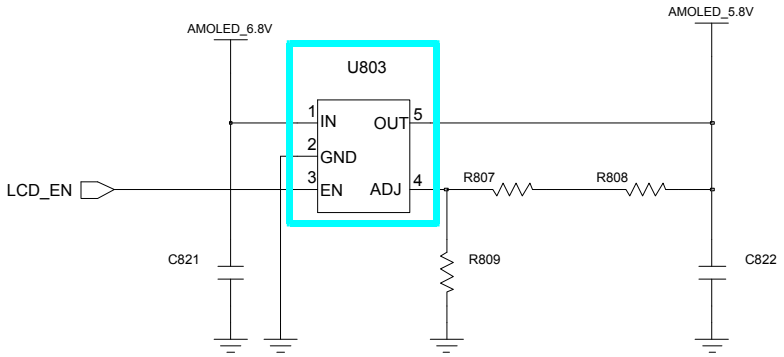

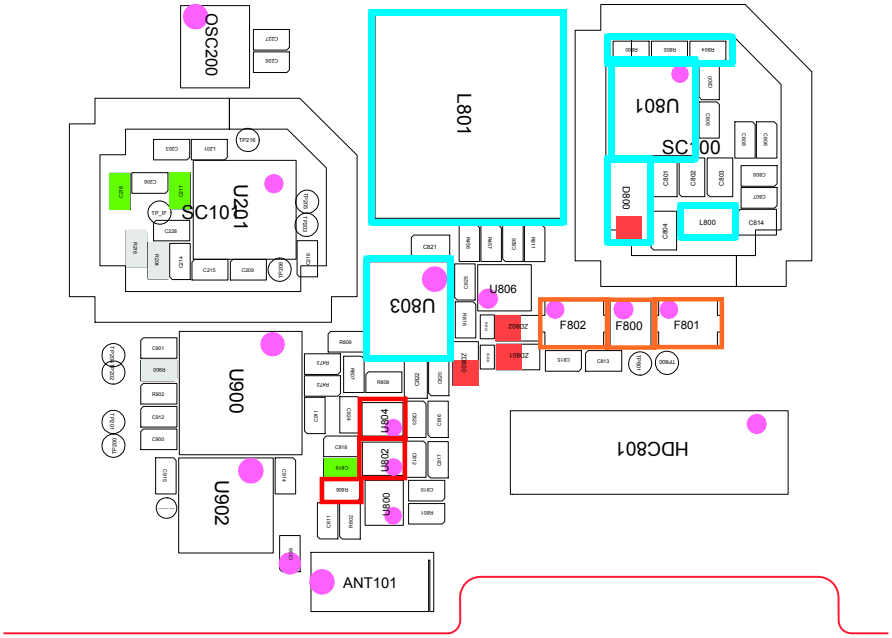

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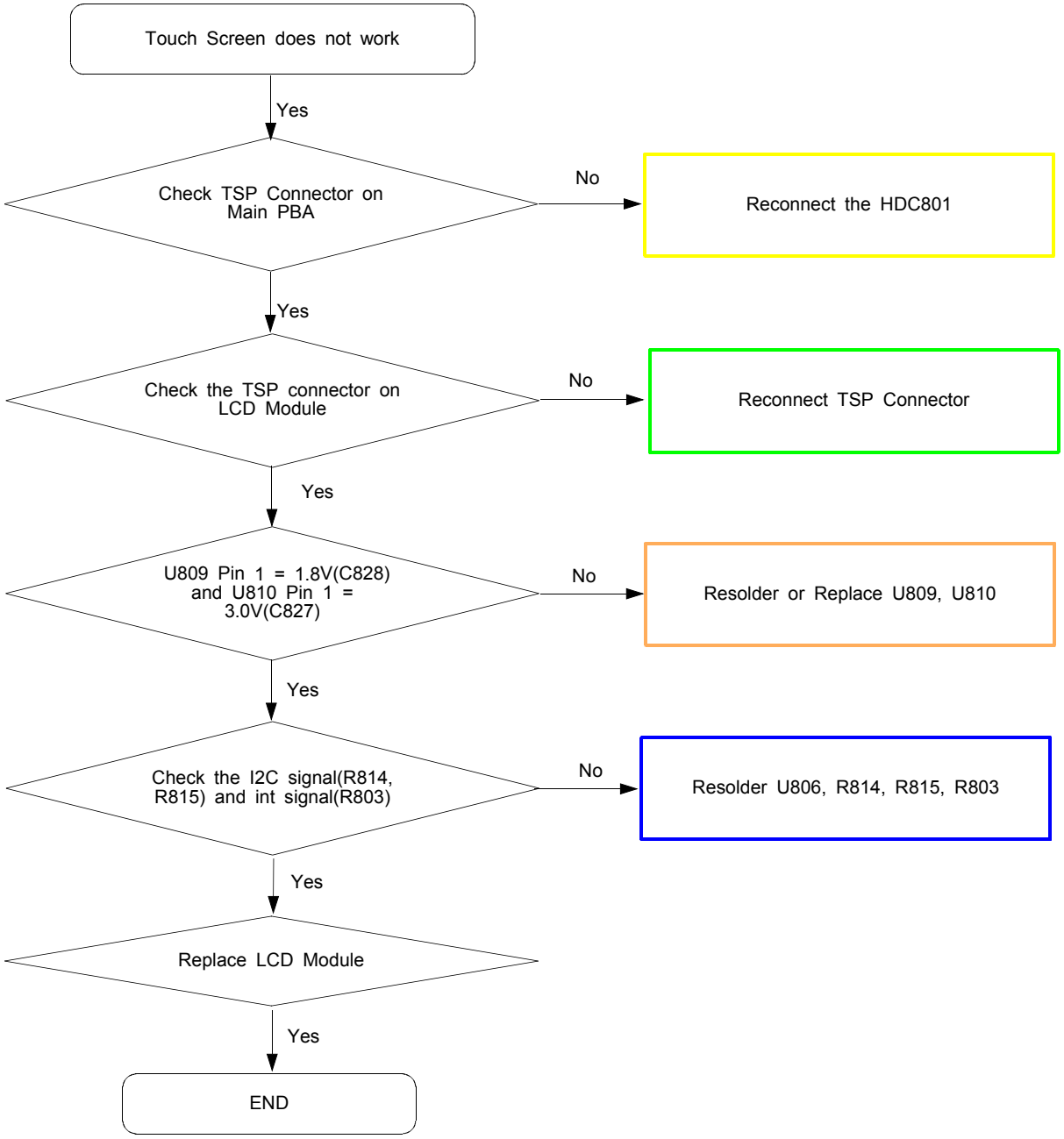
8-3-14. TSP



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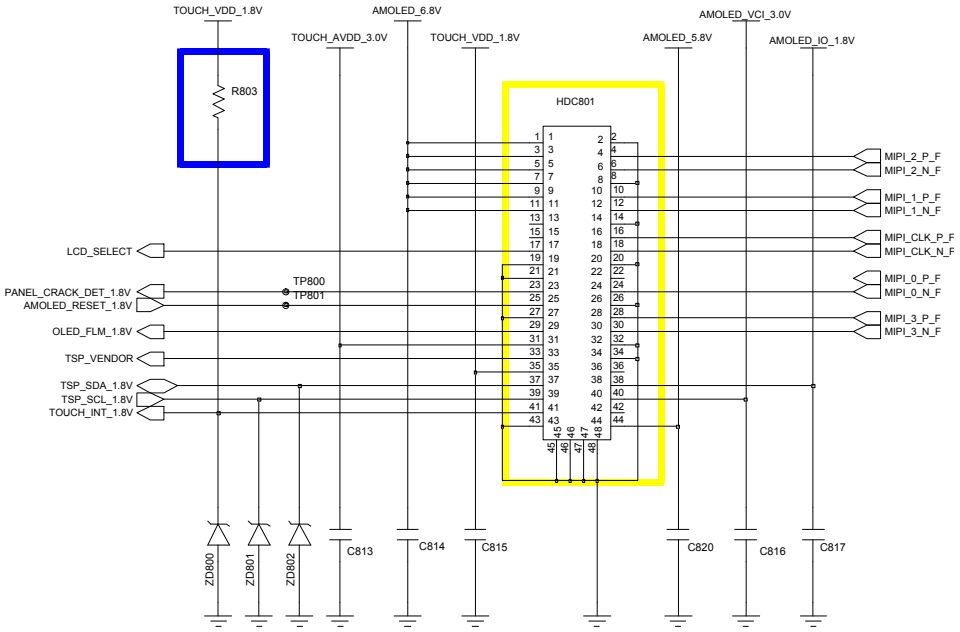

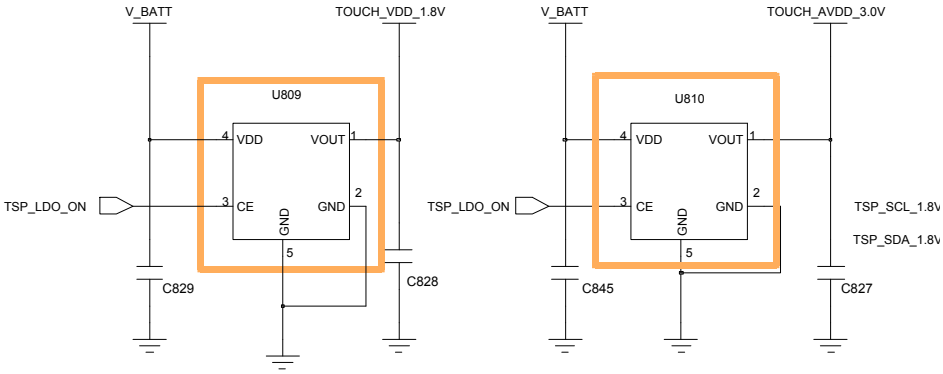

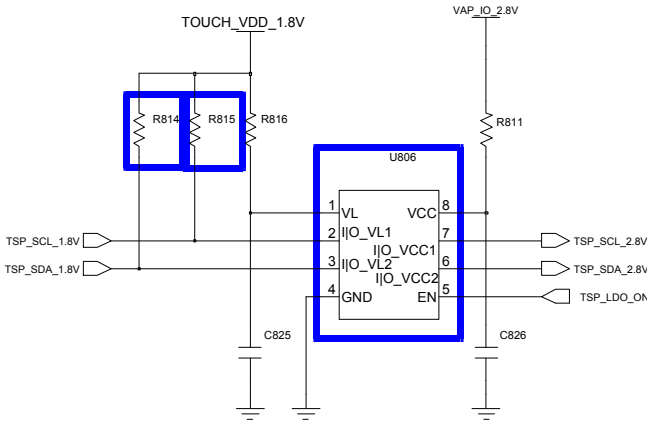

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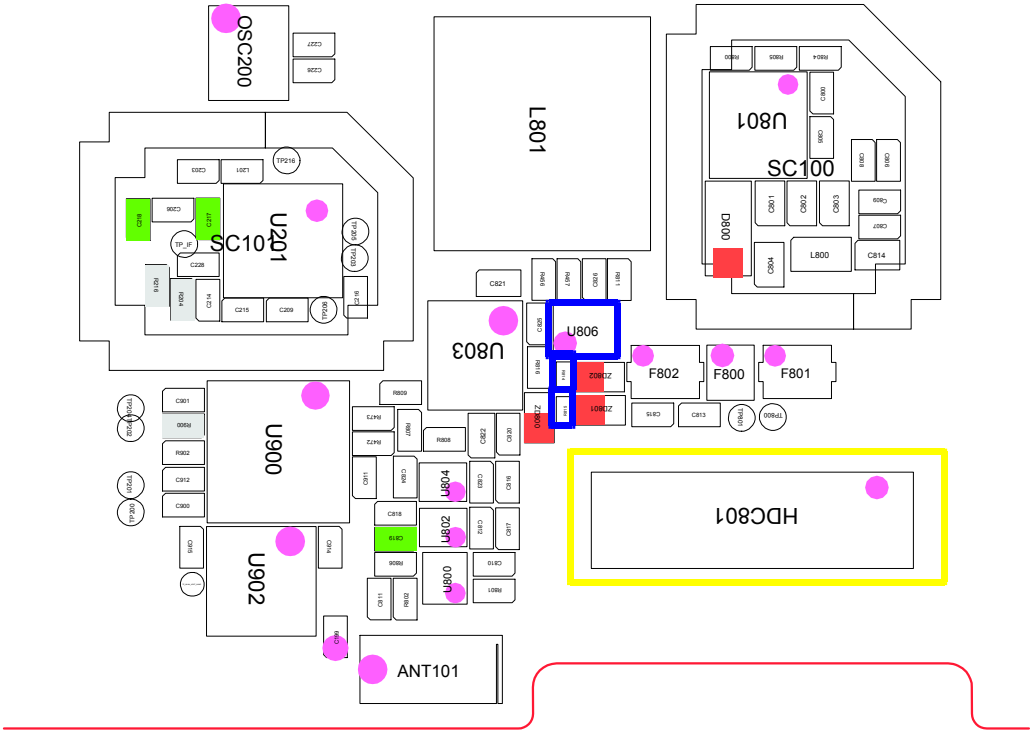

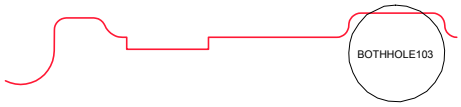

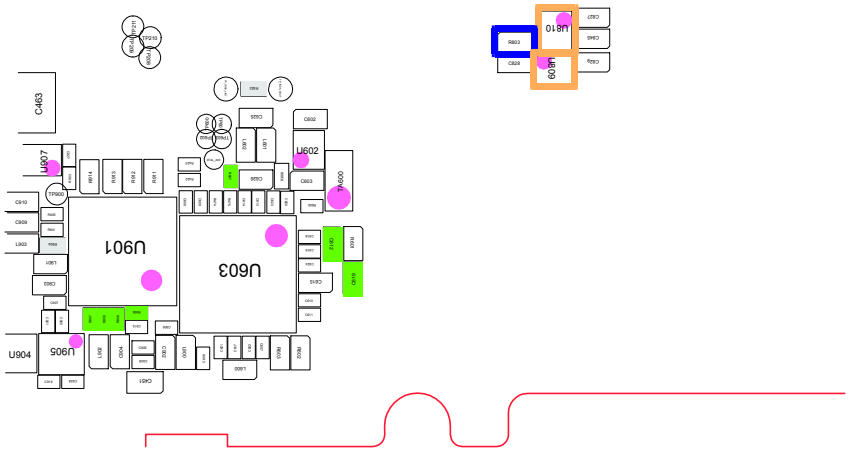

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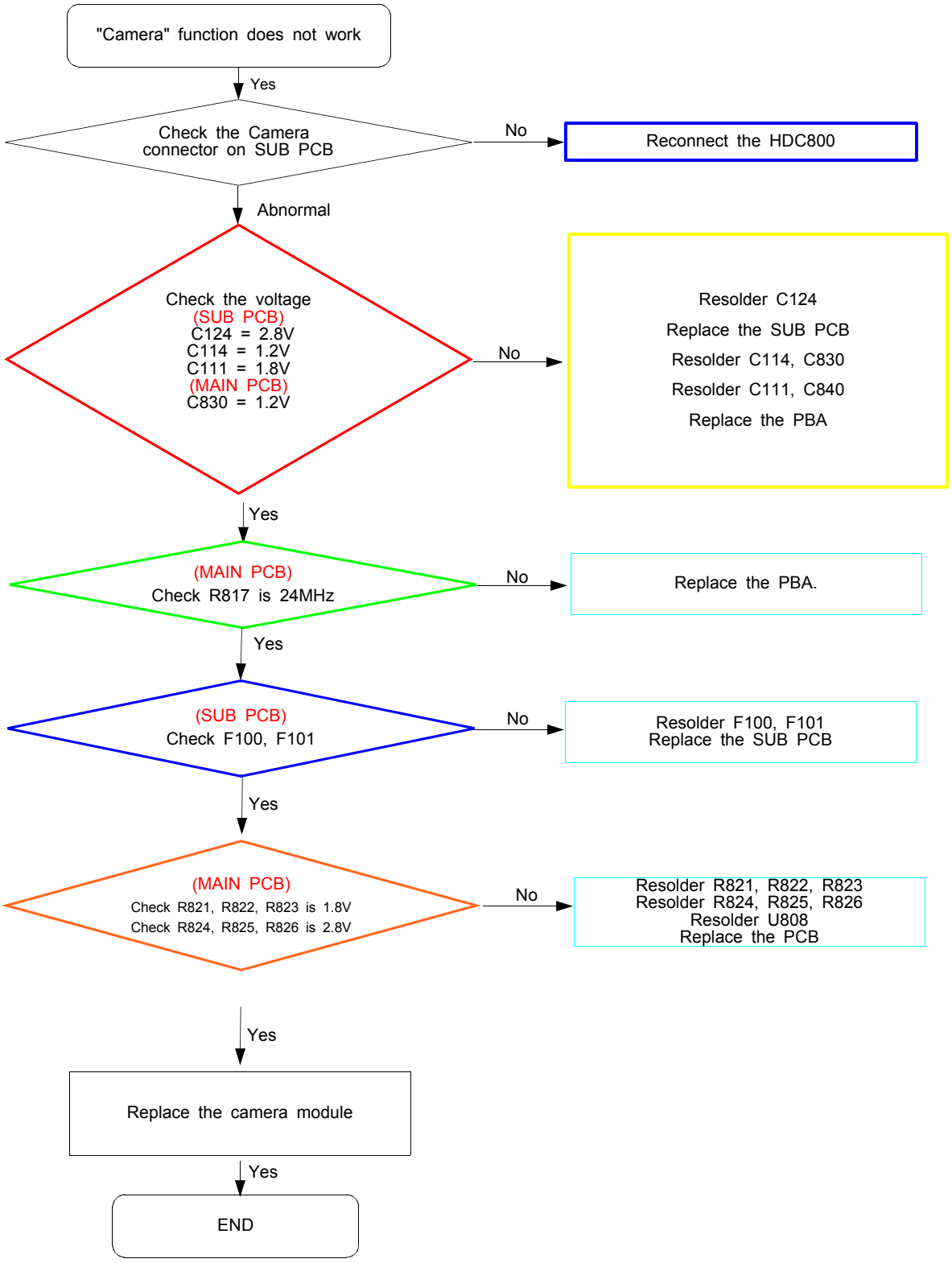
8-3-15. 3M CAM



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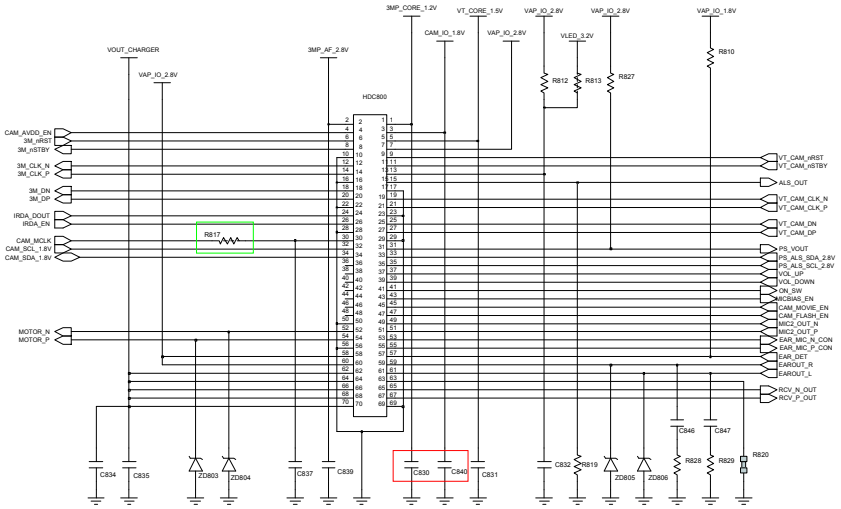
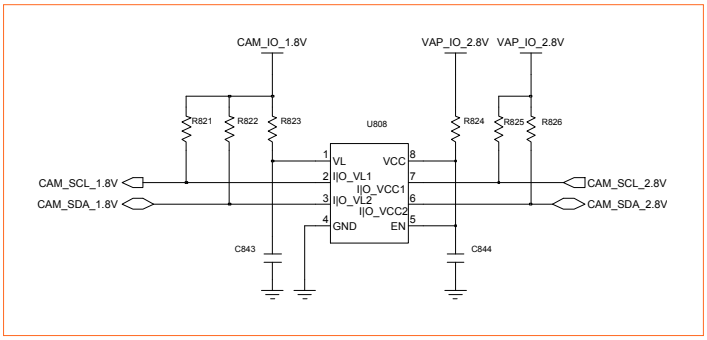
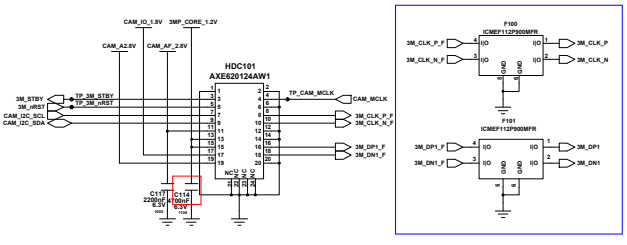
Main PCB



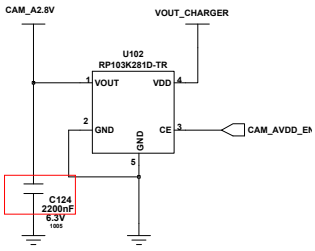


SUB PCB

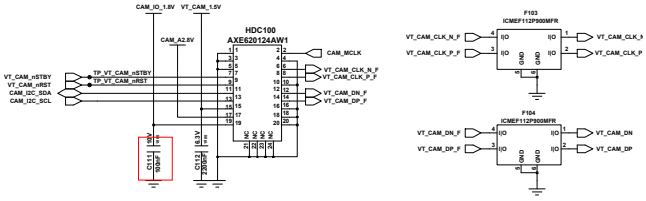
3M CAM



CAM AVDD LDO



2M_CAM



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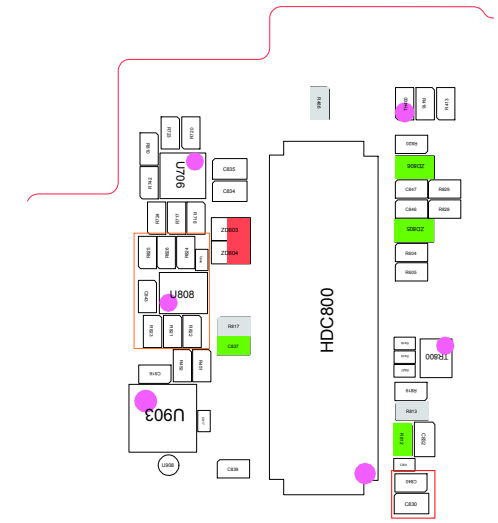

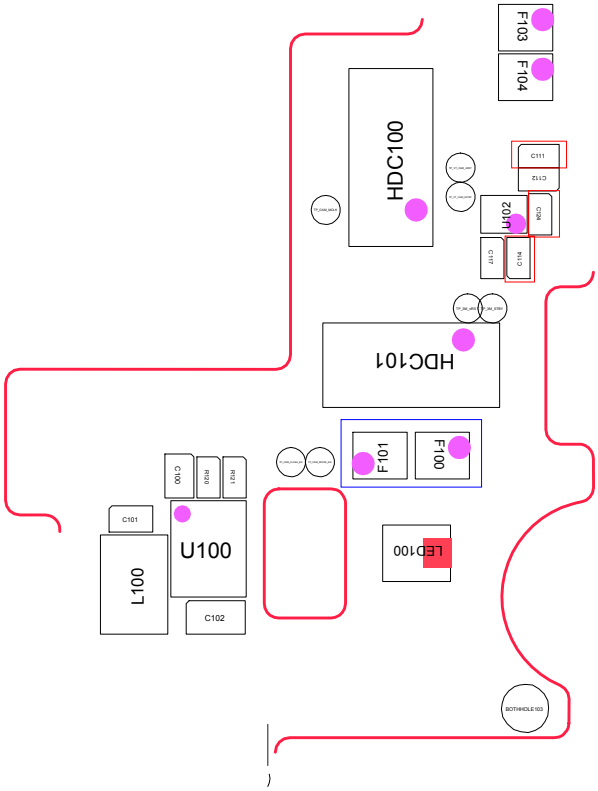

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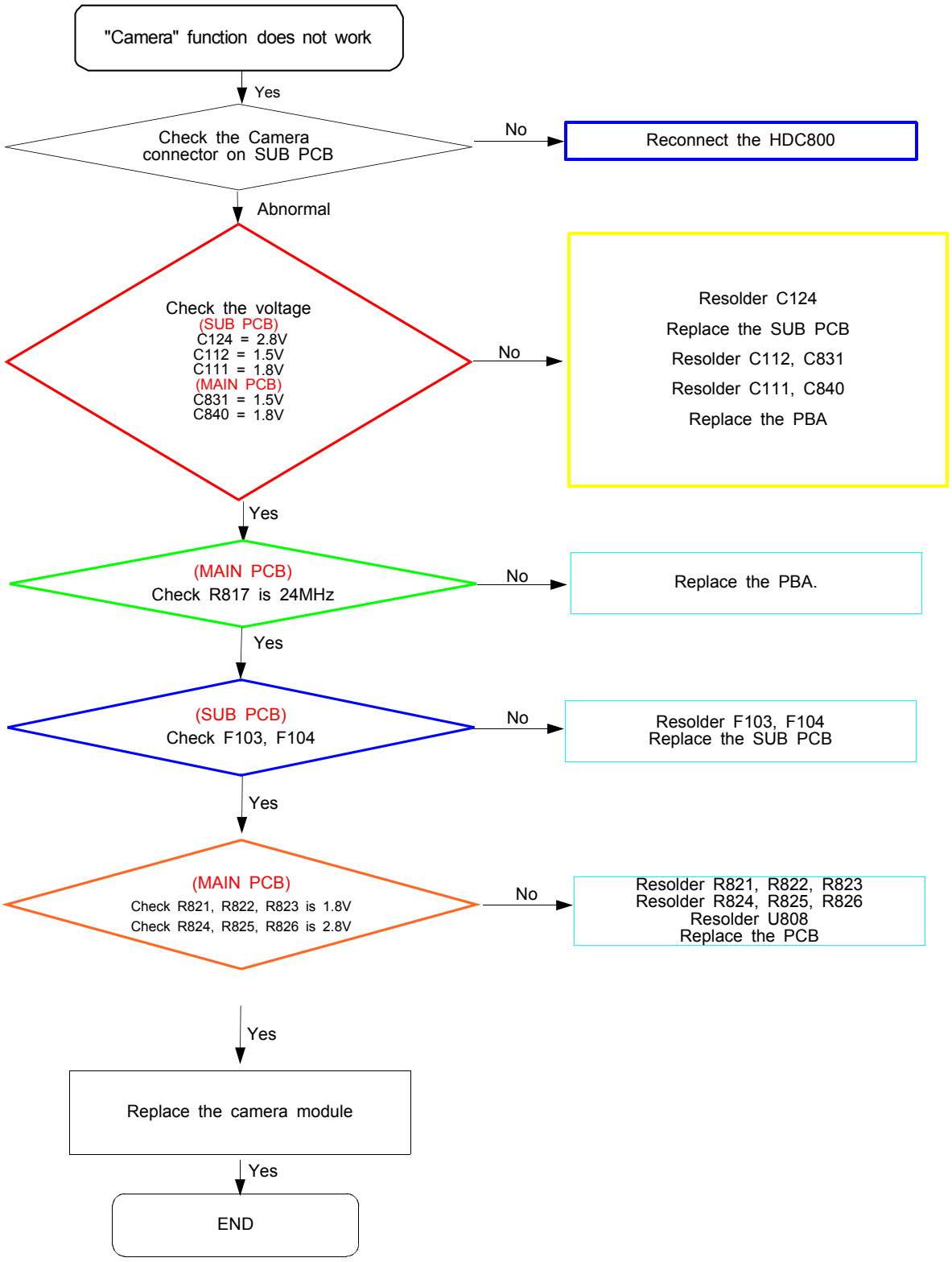
8-3-16. 2M CAM



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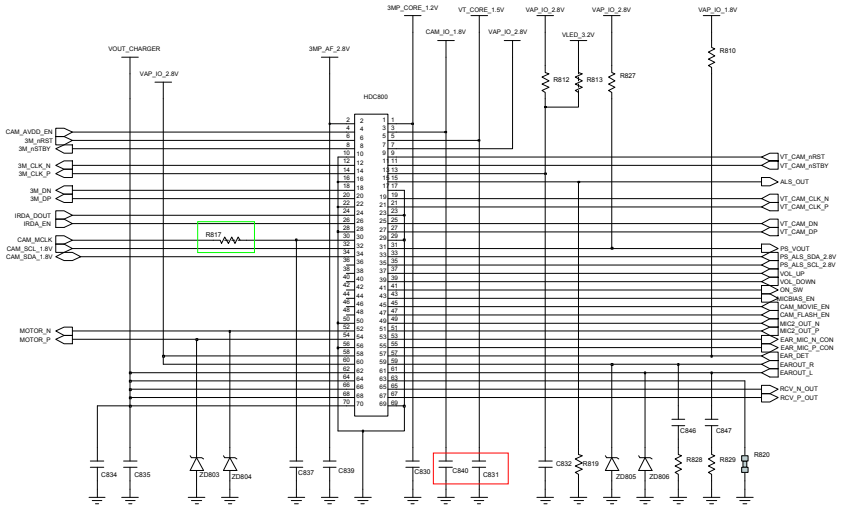
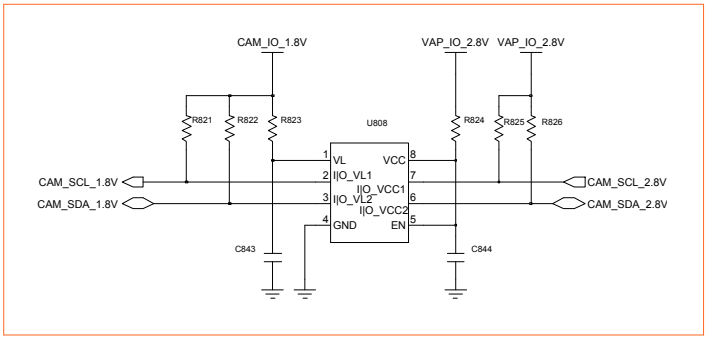
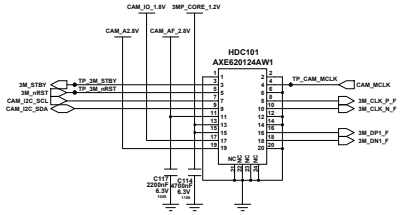
Main PCB

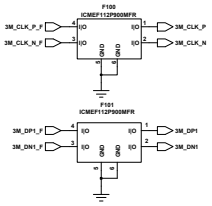




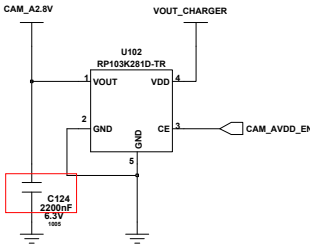
SUB PCB

3M CAM

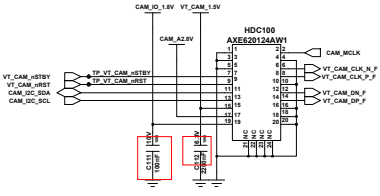


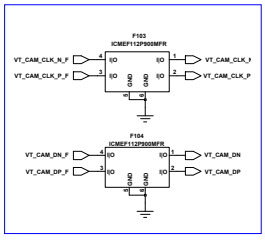


CAM AVDD LDO



2M_CAM





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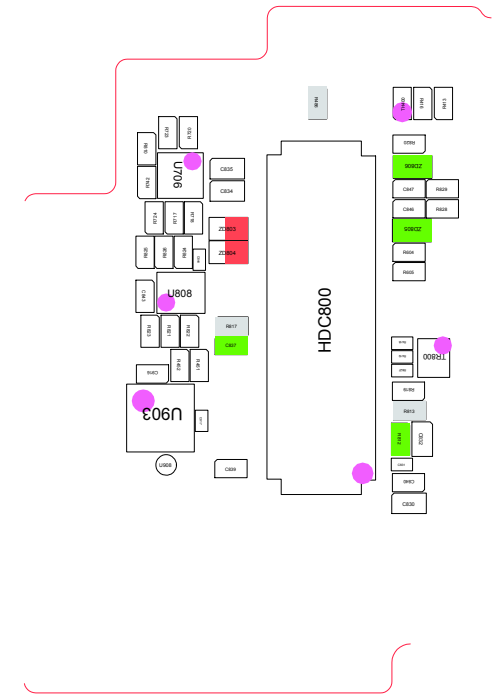

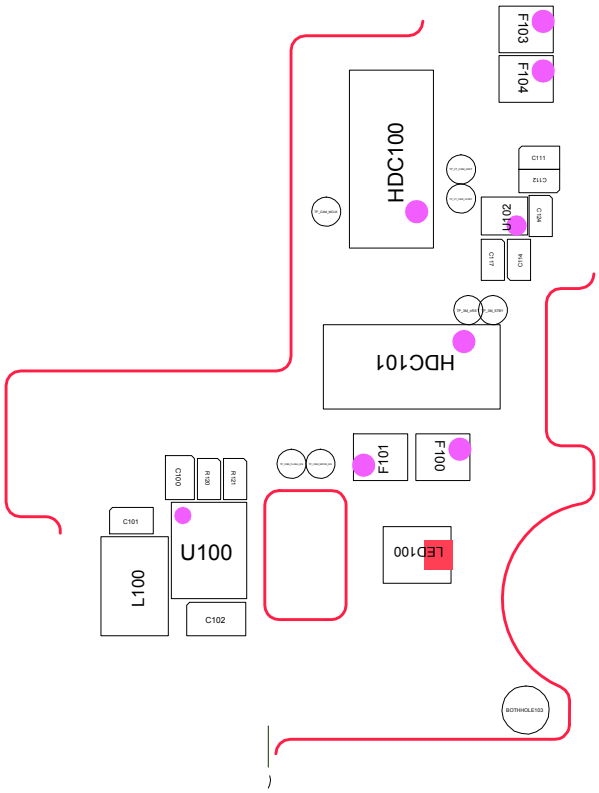

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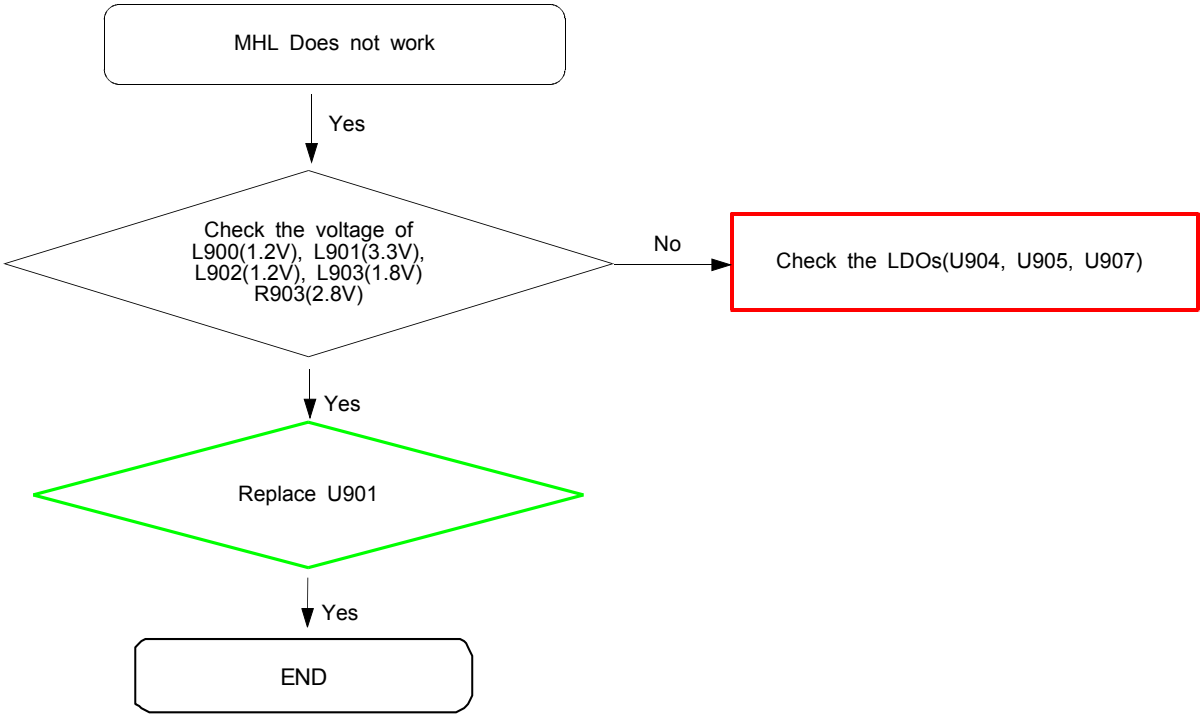
8-3-17. MHL



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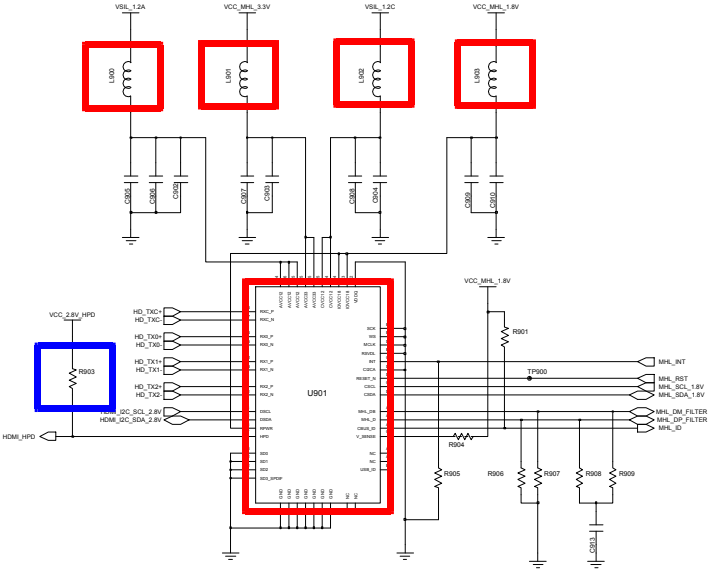
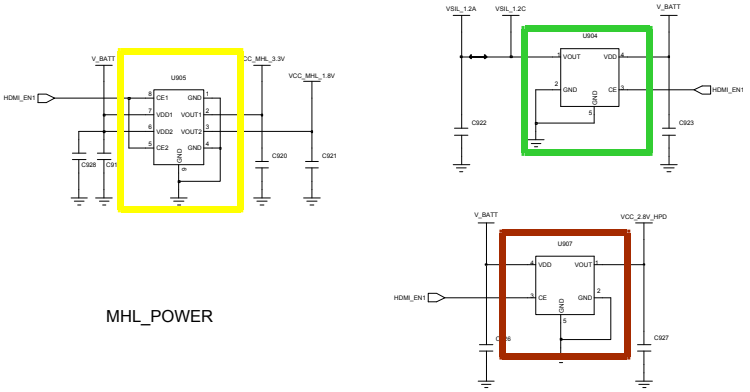
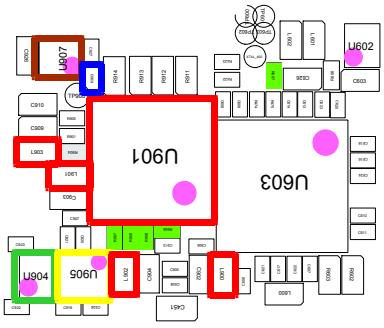


MHL TRANSMITTER



MHL_POWER



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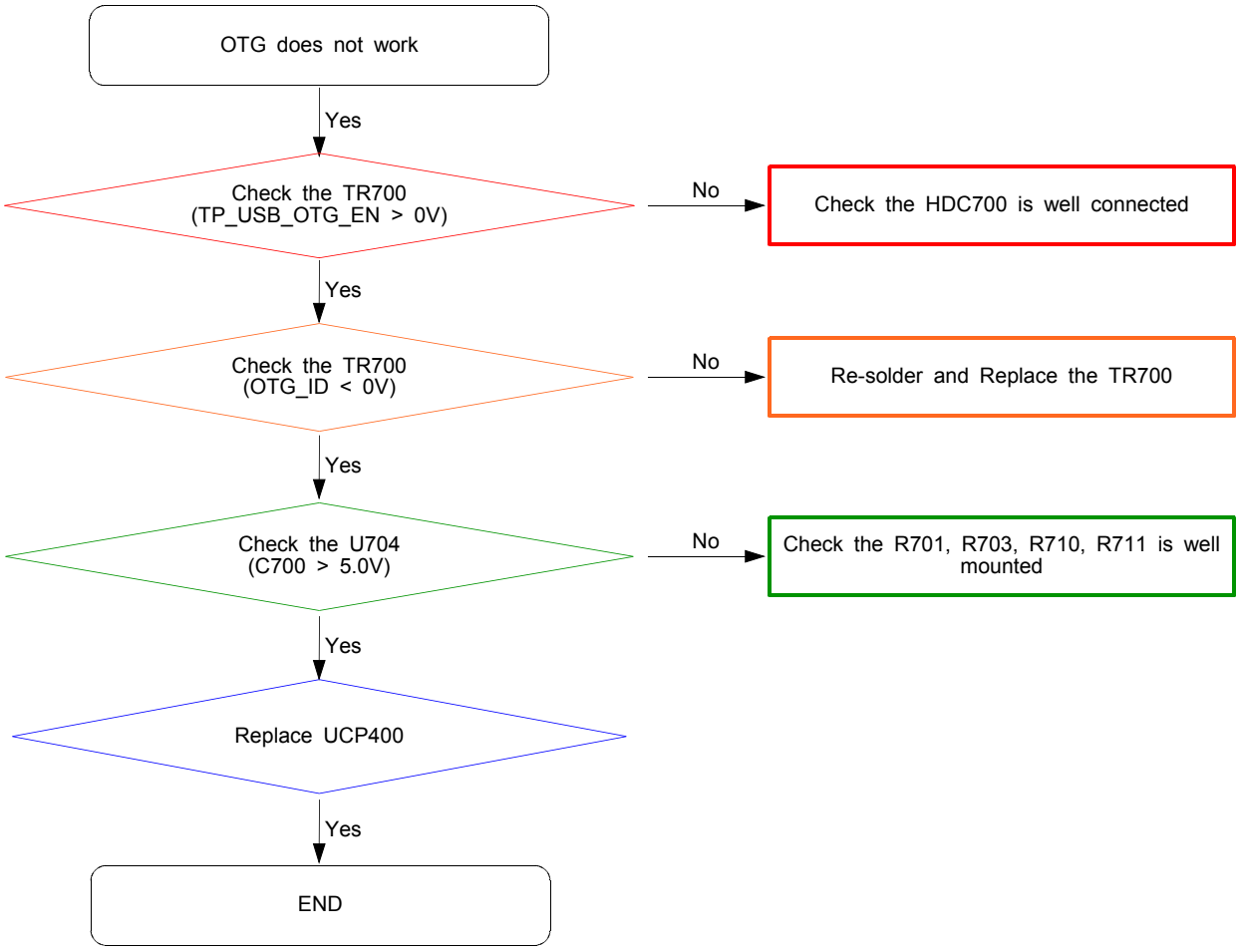
8-3-18. OTG



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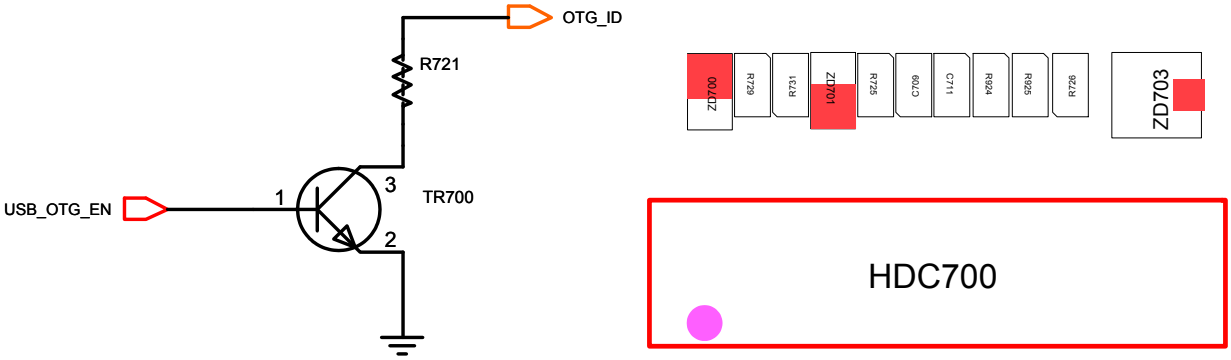

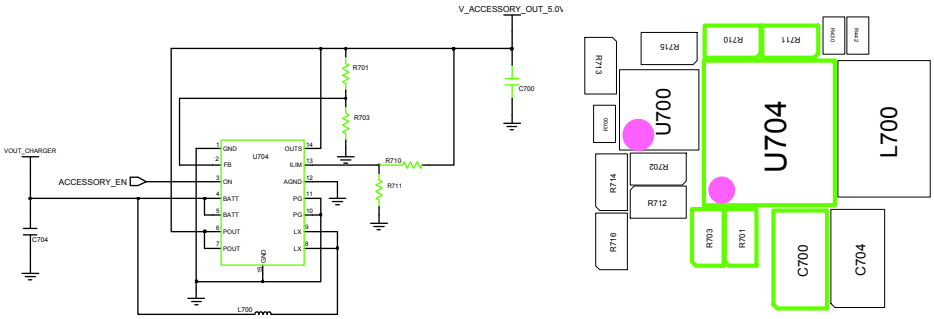

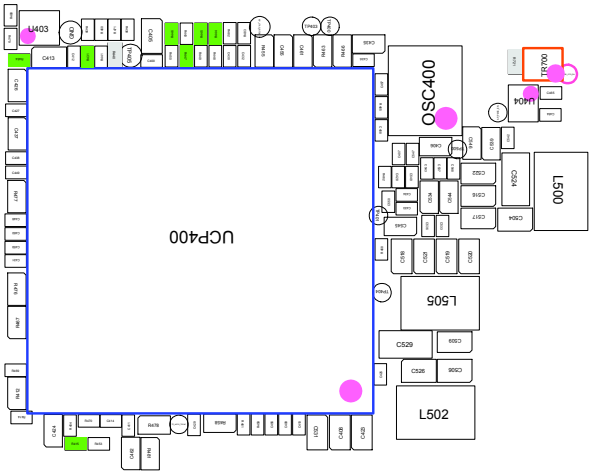

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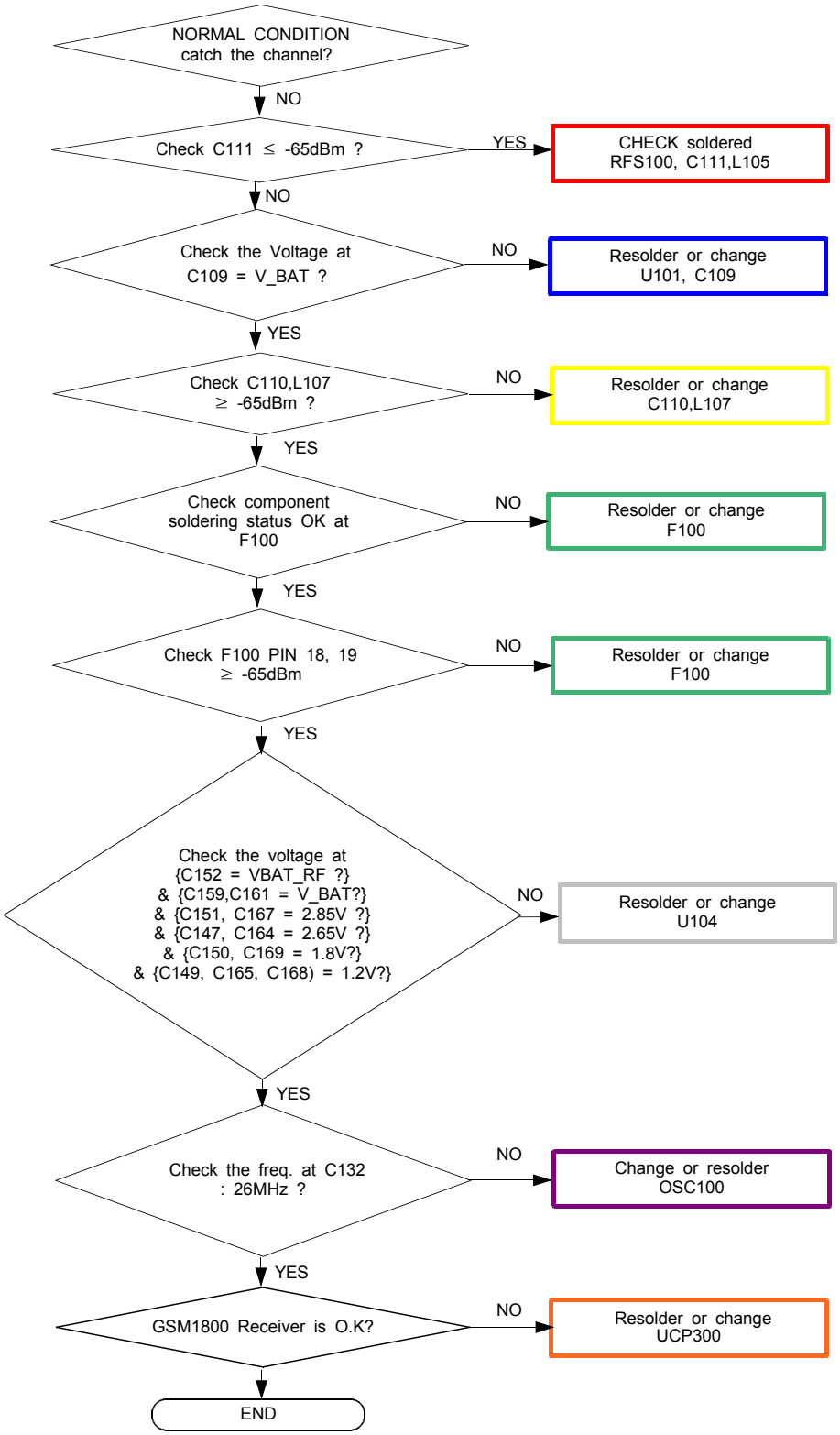
8-3-19. GSM1800 RX



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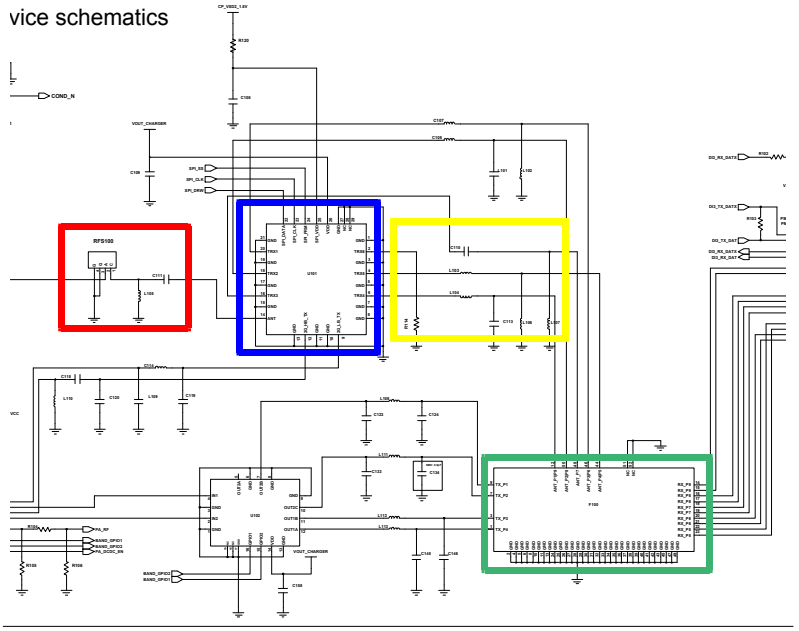
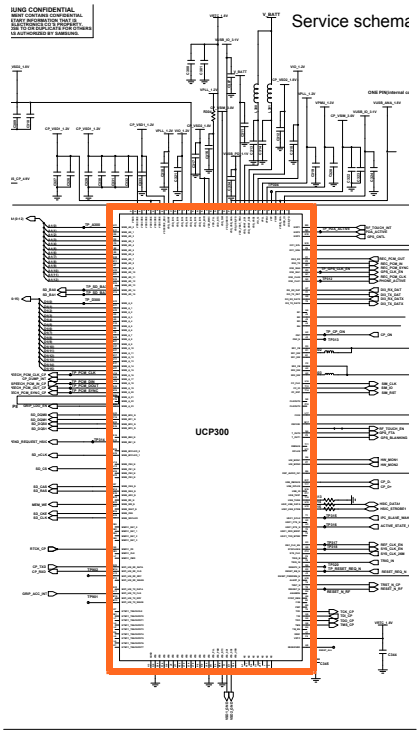
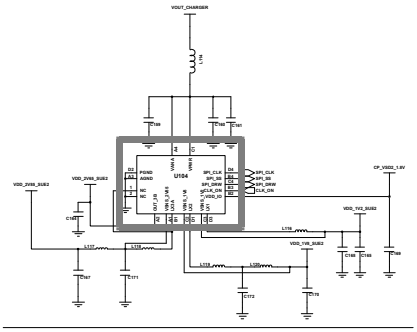
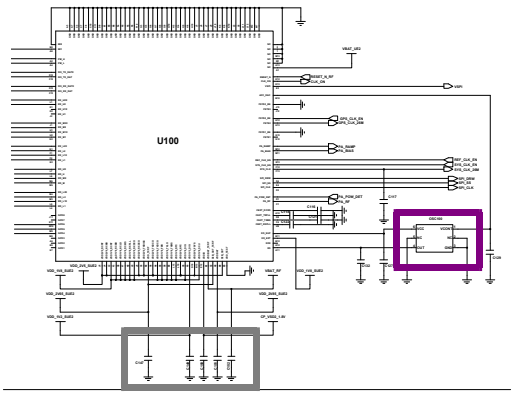
vice schematics

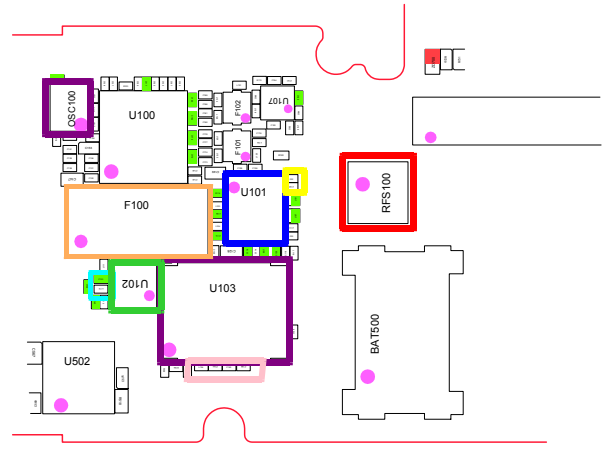
Service schema

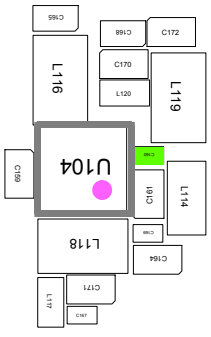


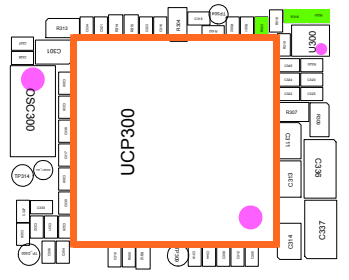












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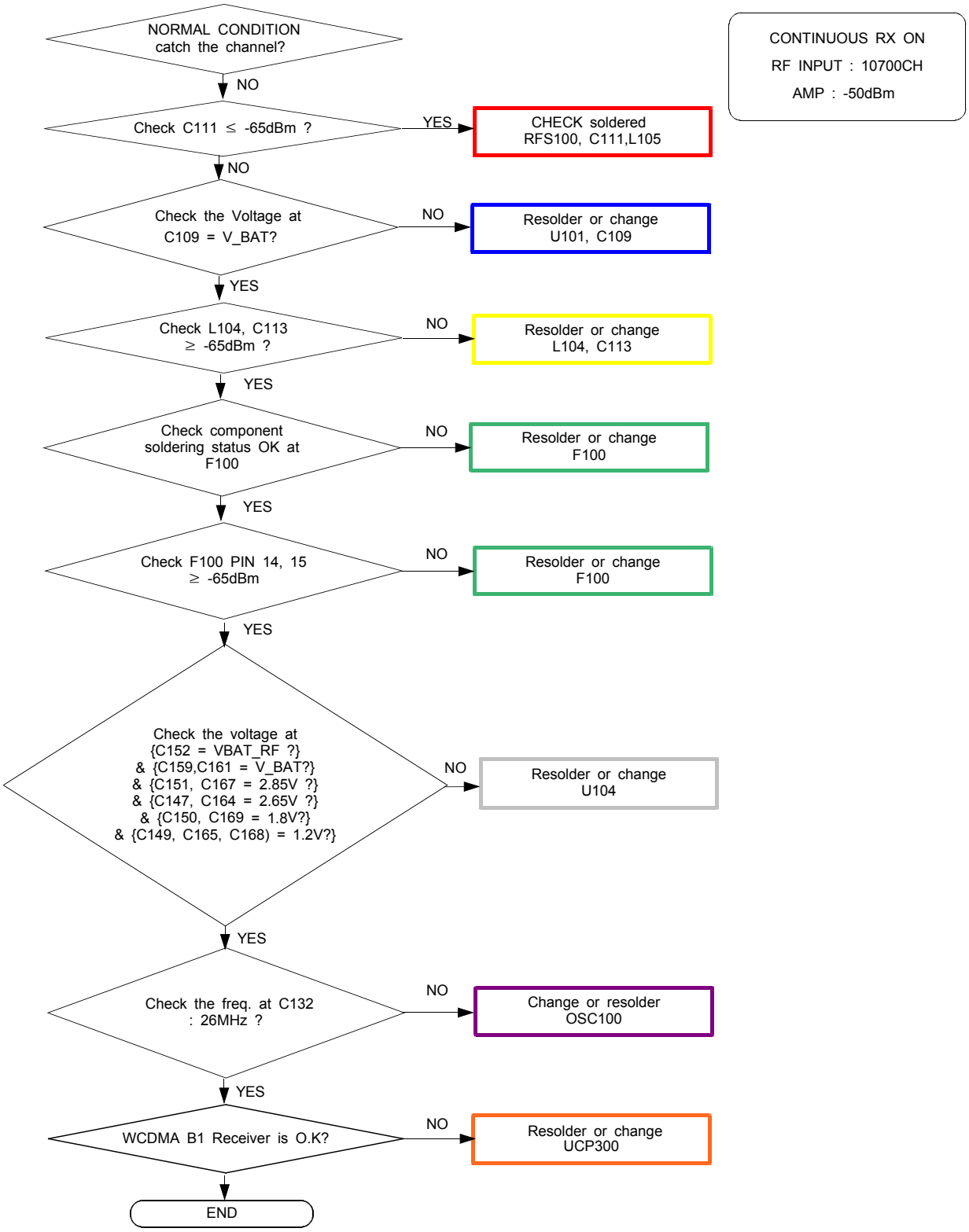
8-3-20. WCDMA Band1 RX



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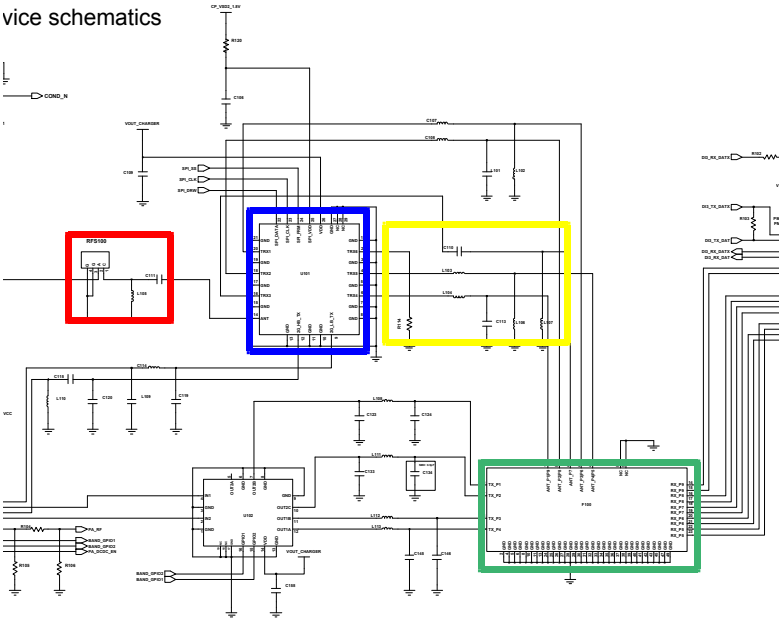
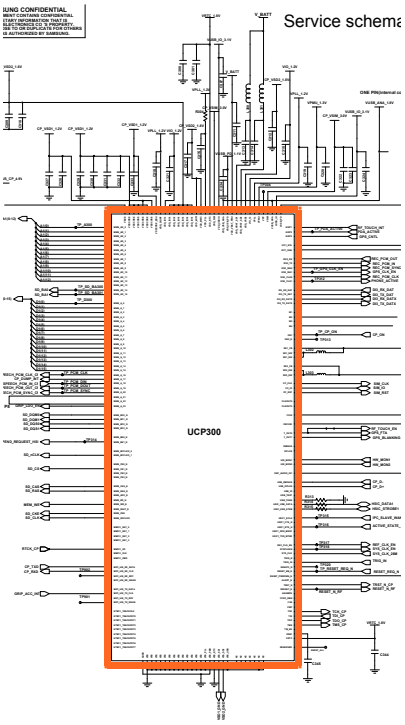
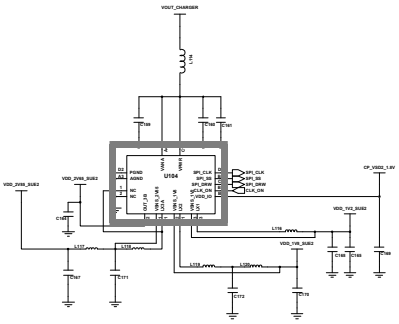
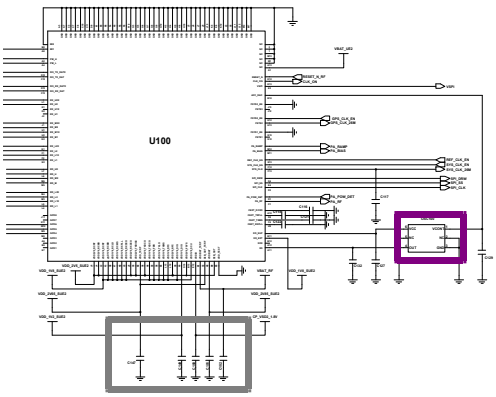
vice schematics

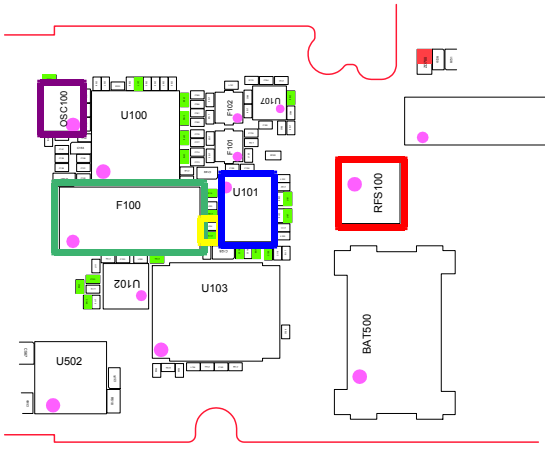
Service schema

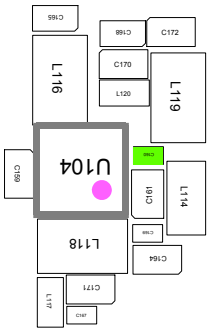


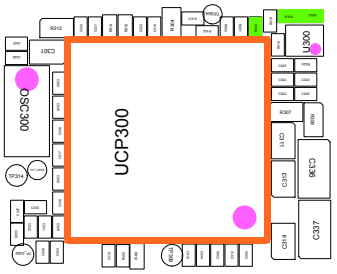












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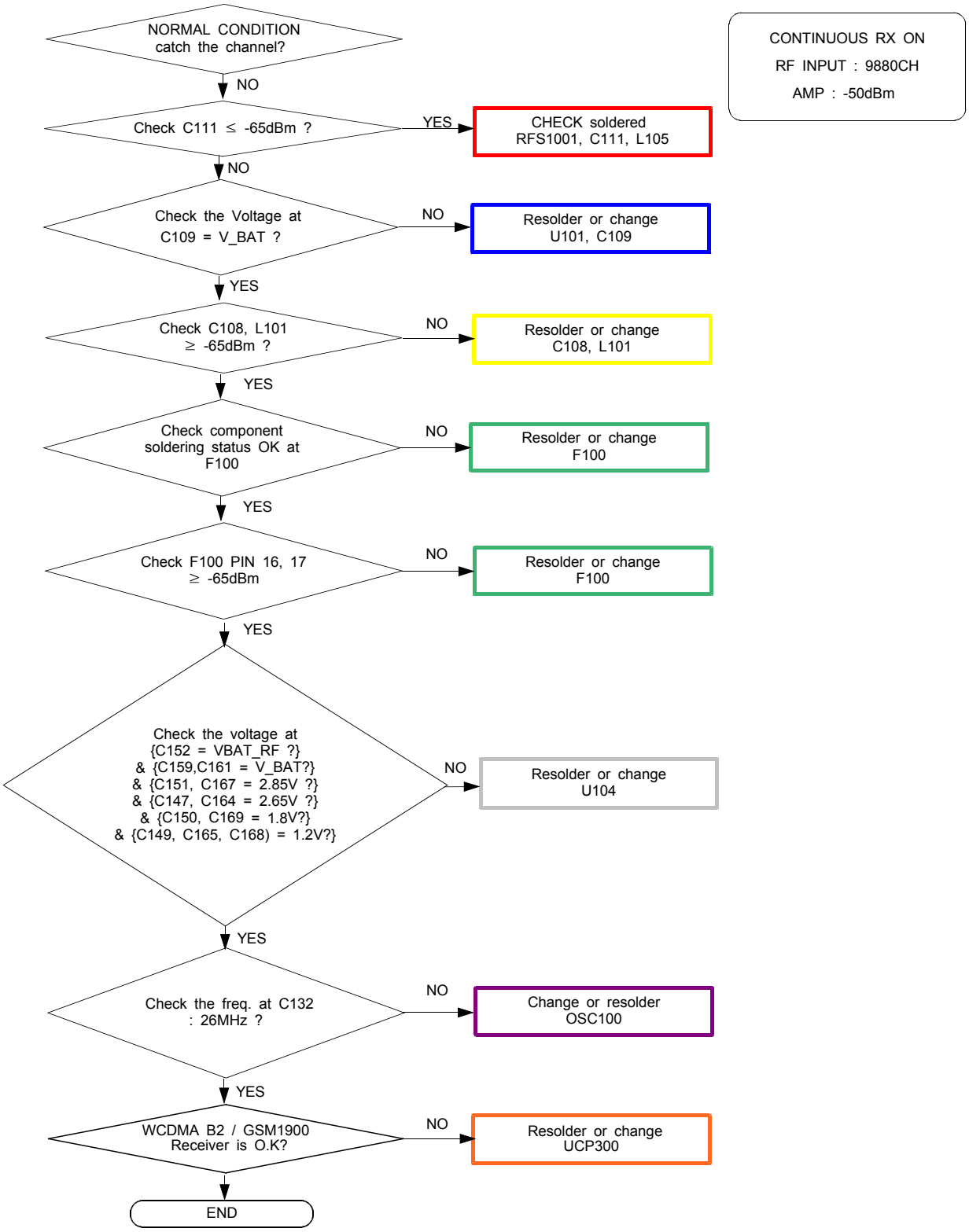
8-3-21. WCDMA Band2 / GSM1900 RX


NORMAL CONDITION catch the channel?
NO
Check C111 ≤ -65dBm ?
YES
CHECK soldered RFS1001, C111, L105
NO
Check the Voltage at C109 = V_BAT ?
NO
Resolder or change U101, C109
YES
Check C108, L101 ≥ -65dBm ?
NO
Resolder or change C108, L101
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check F100 PIN 16, 17 ≥ -65dBm
NO
Resolder or change F100
YES
Check the voltage at {C152 = VBAT_RF ?} & {C159,C161 = V_BAT?} & {C151, C167 = 2.85V ?} & {C147, C164 = 2.65V ?} & {C150, C169 = 1.8V?} & {C149, C165, C168) = 1.2V?}
NO
Resolder or change U104
YES
Check the freq. at C132 : 26MHz ?
NO
Change or resolder OSC100
YES
WCDMA B2 / GSM1900 Receiver is O.K?
NO
Resolder or change UCP300
END
CONTINUOUS RX ON
RF INPUT : 9880CH
AMP : -50dBm

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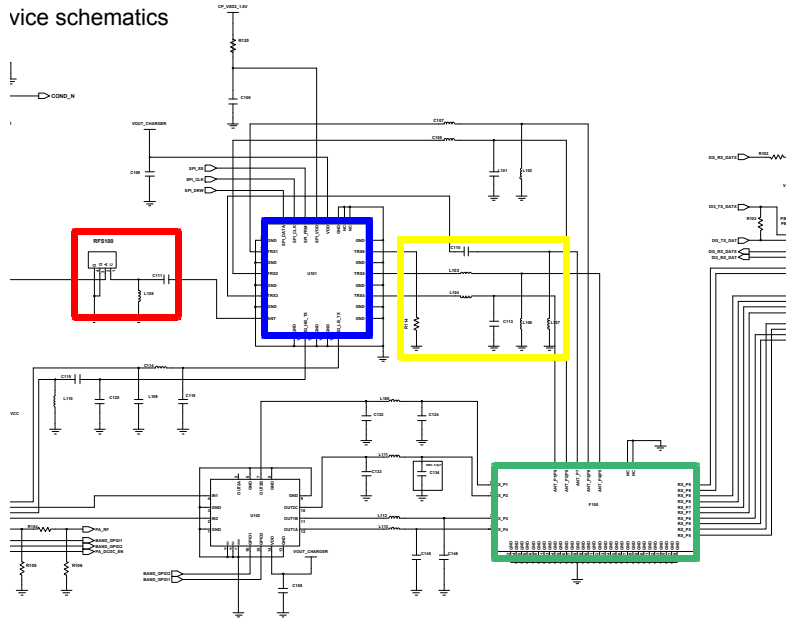
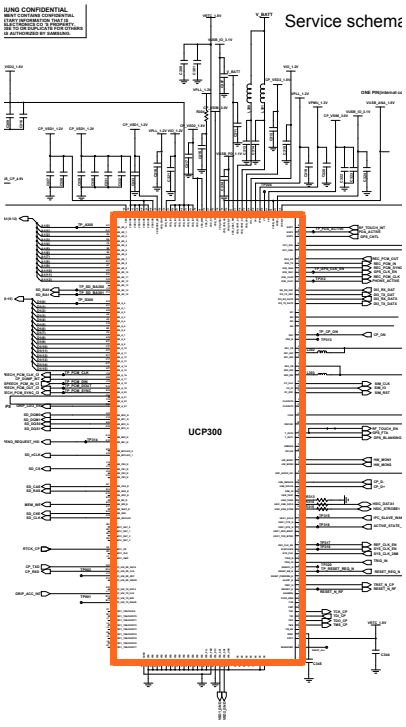
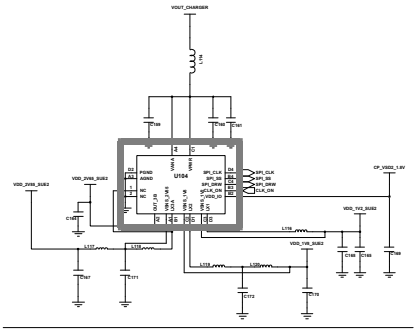
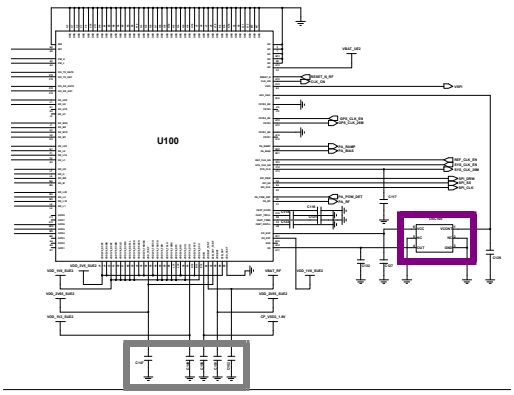
vice schematics

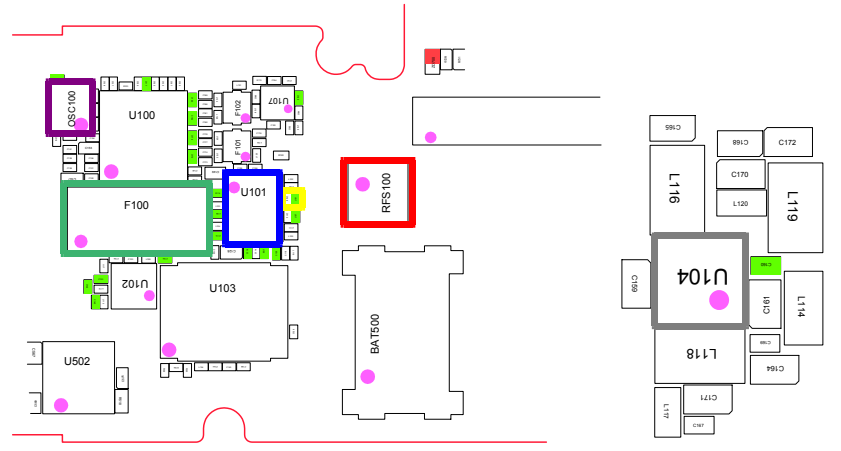
Service schema

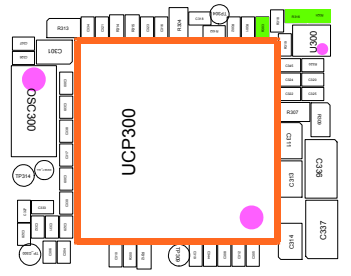












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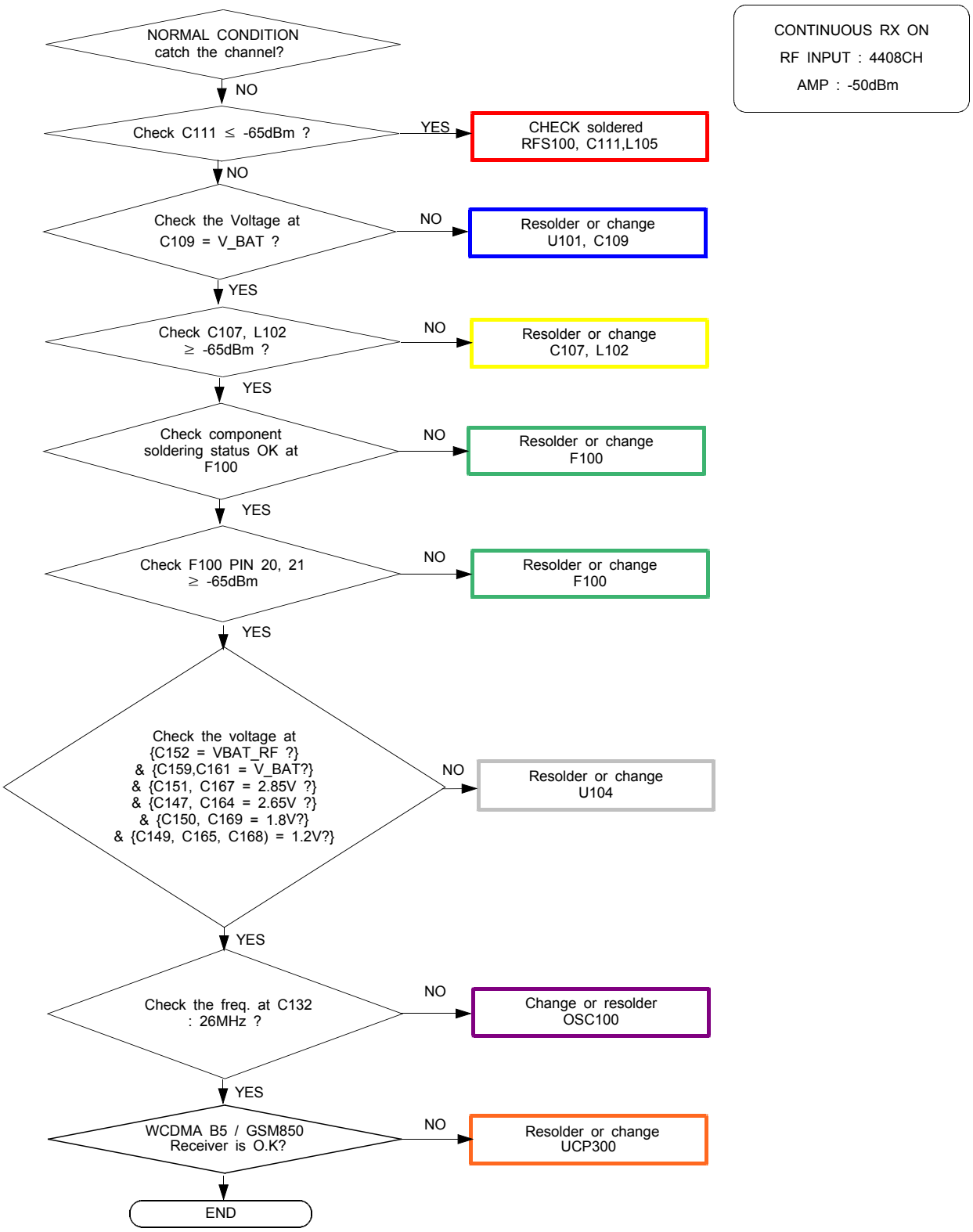
8-3-22. WCDMA Band5 / GSM 850 RX


CONTINUOUS RX ON
RF INPUT : 4408CH
AMP : -50dBm
NORMAL CONDITION catch the channel?
NO
Check C111 ≤ -65dBm ?
YES
CHECK soldered RFS100, C111,L105
NO
Check the Voltage at C109 = V_BAT ?
NO
Resolder or change U101, C109
YES
Check C107, L102 ≥ -65dBm ?
NO
Resolder or change C107, L102
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check F100 PIN 20, 21 ≥ -65dBm
NO
Resolder or change F100
YES
Check the voltage at {C152 = VBAT_RF ?} & {C159,C161 = V_BAT?} & {C151, C167 = 2.85V ?} & {C147, C164 = 2.65V ?} & {C150, C169 = 1.8V?} & {C149, C165, C168) = 1.2V?}
NO
Resolder or change U104
YES
Check the freq. at C132 : 26MHz ?
NO
Change or resolder OSC100
YES
WCDMA B5 / GSM850 Receiver is O.K?
NO
Resolder or change UCP300
END

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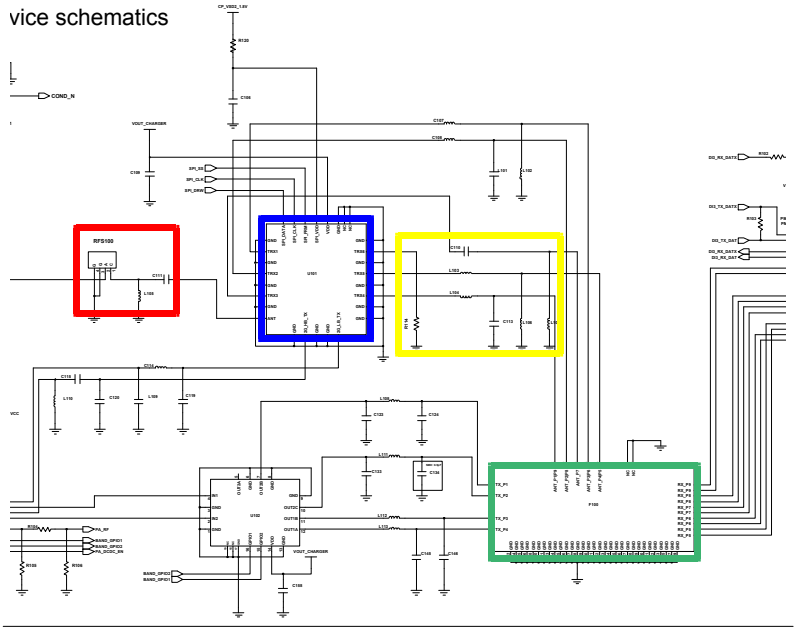
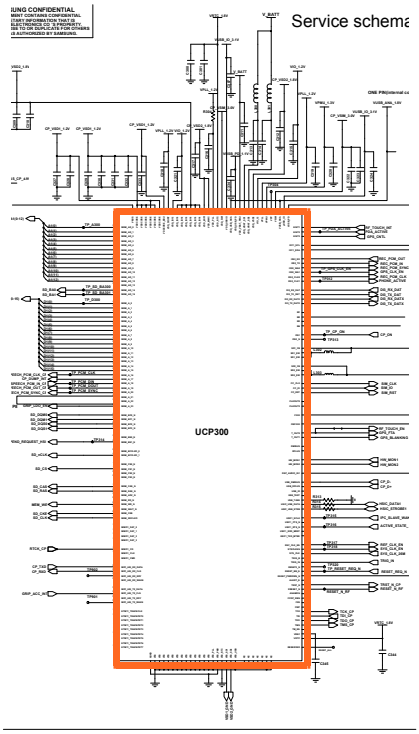
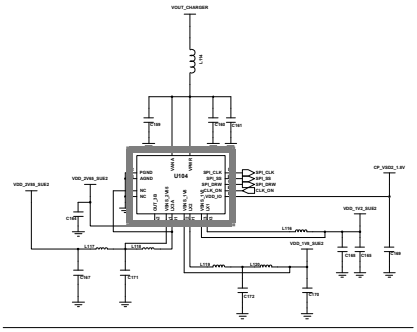
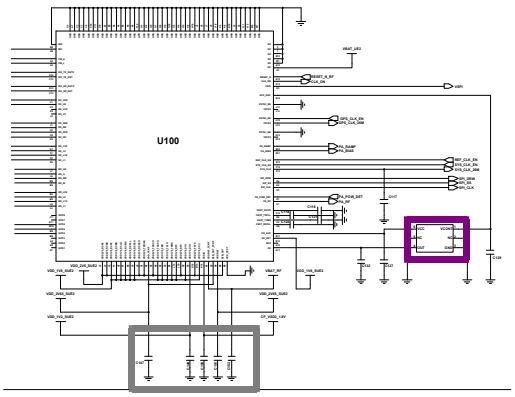
vice schematics

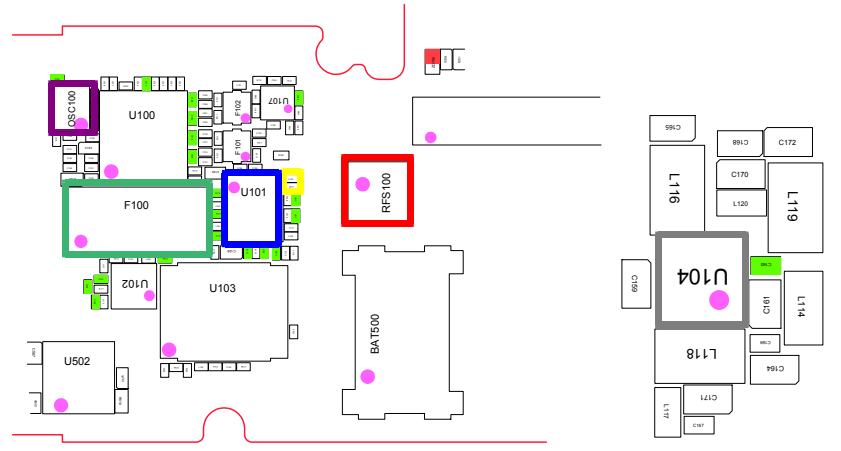
Service schema











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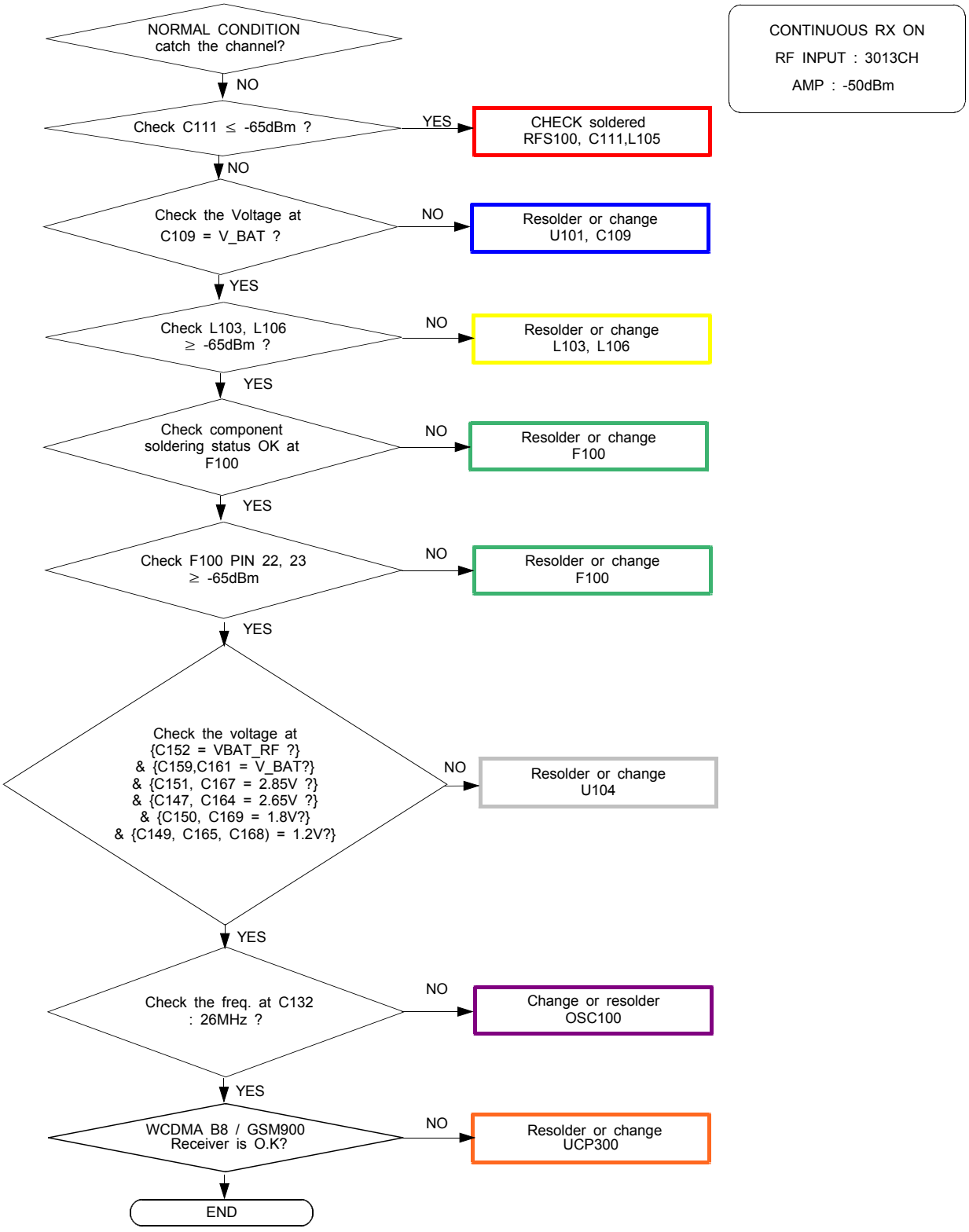
8-3-23. WCDMA Band8 / GSM900 RX


CONTINUOUS RX ON
RF INPUT : 3013CH
AMP : -50dBm
NORMAL CONDITION catch the channel?
NO
Check C111 ≤ -65dBm ?
YES
CHECK soldered RFS100, C111,L105
NO
Check the Voltage at C109 = V_BAT ?
NO
Resolder or change U101, C109
YES
Check L103, L106 ≥ -65dBm ?
NO
Resolder or change L103, L106
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check F100 PIN 22, 23 ≥ -65dBm
NO
Resolder or change F100
YES
Check the voltage at {C152 = VBAT_RF ?} & {C159,C161 = V_BAT?} & {C151, C167 = 2.85V ?} & {C147, C164 = 2.65V ?} & {C150, C169 = 1.8V?} & {C149, C165, C168) = 1.2V?}
NO
Resolder or change U104
YES
Check the freq. at C132 : 26MHz ?
NO
Change or resolder OSC100
YES
WCDMA B8 / GSM900 Receiver is O.K?
NO
Resolder or change UCP300
END

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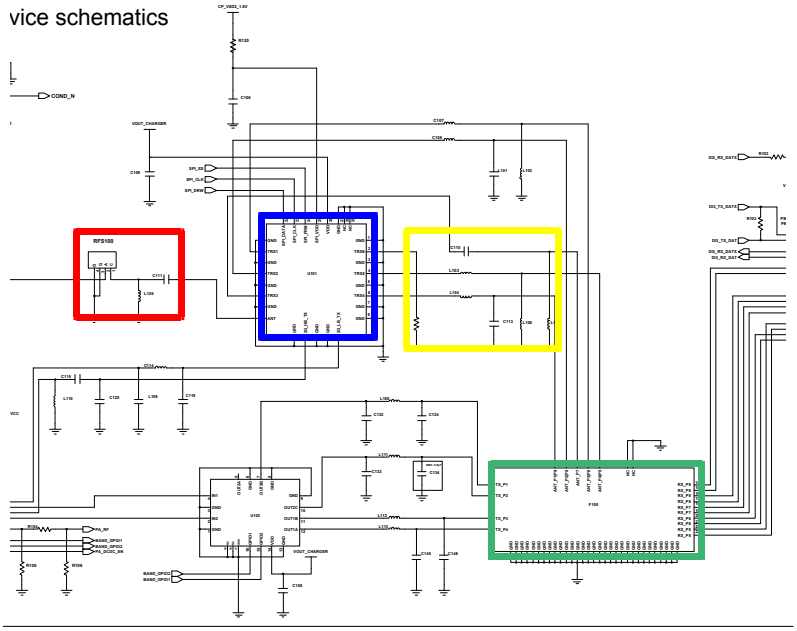
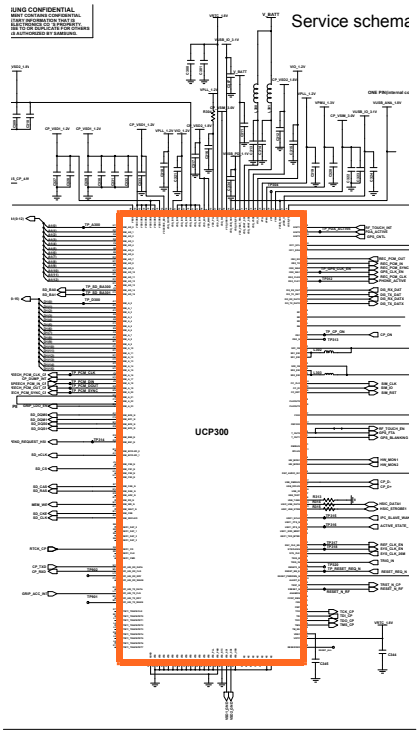
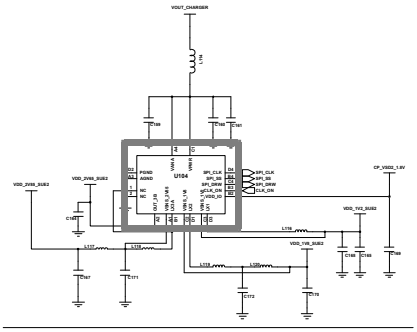
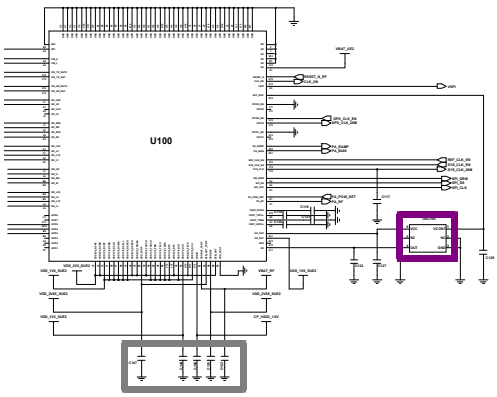
vice schematics

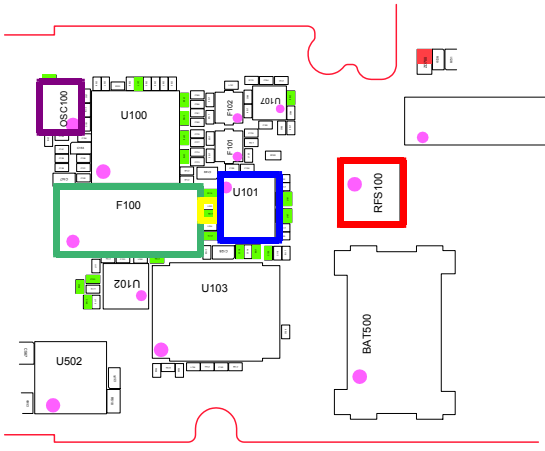


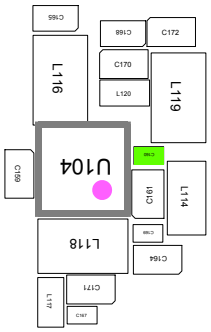
Service schema

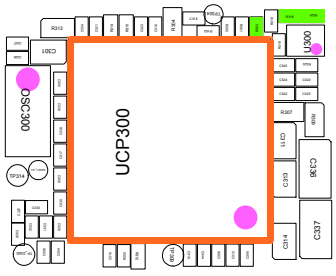












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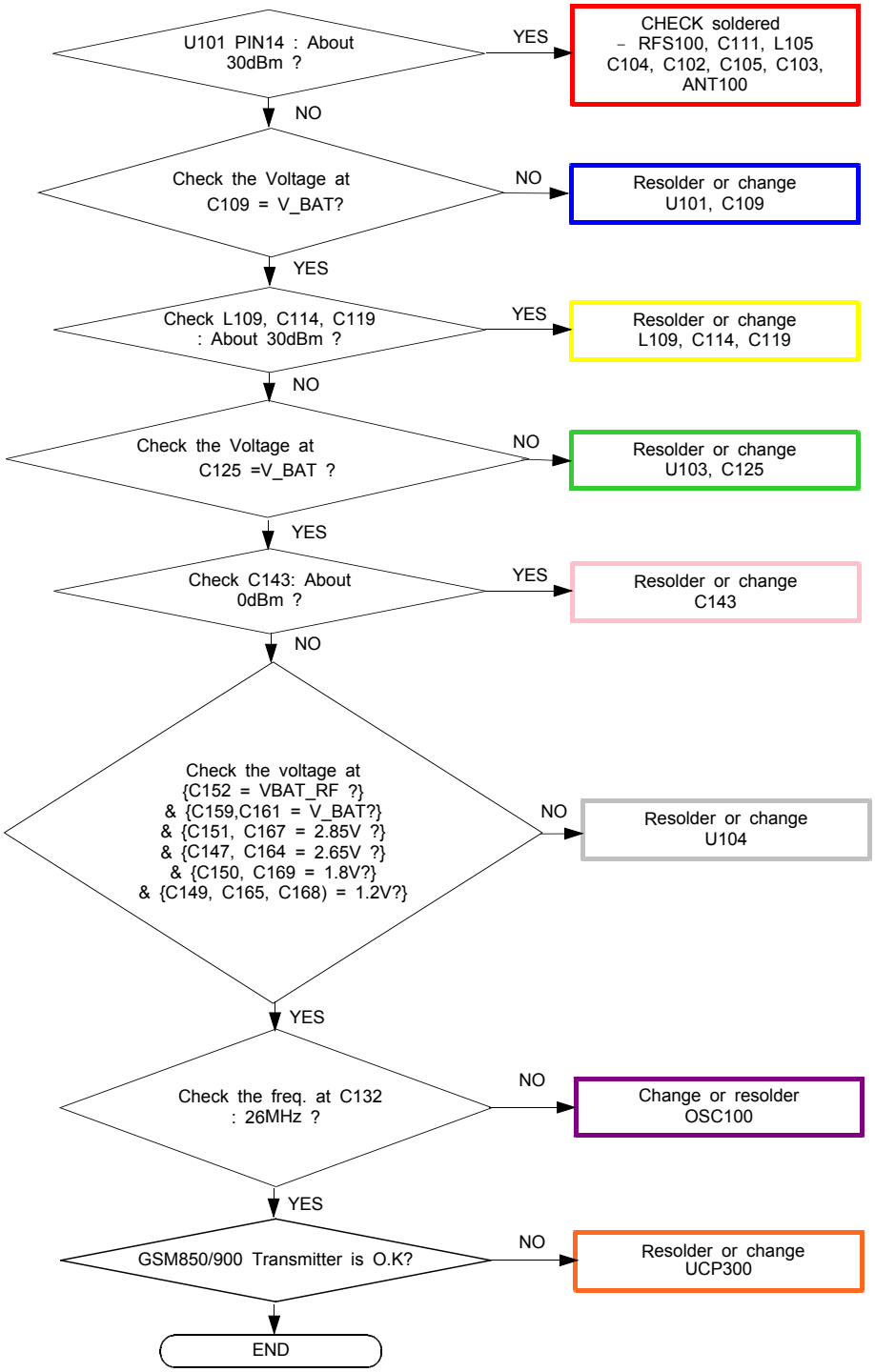
8-3-24. GSM850/GSM900 TX

CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
GSM850 CH : 190
GSM900 CH : 62
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB


U101 PIN14 : About 30dBm ?
YES
CHECK soldered
- RFS100, C111, L105
C104, C102, C105, C103,
ANT100
NO
Check the Voltage at C109 = V_BAT?
NO
Resolder or change U101, C109
YES
Check L109, C114, C119 : About 30dBm ?
YES
Resolder or change L109, C114, C119
NO
Check the Voltage at C125 =V_BAT ?
NO
Resolder or change U103, C125
YES
Check C143: About 0dBm ?
YES
Resolder or change C143
NO
Check the voltage at {C152 = VBAT_RF ?} & {C159,C161 = V_BAT?} & {C151, C167 = 2.85V ?} & {C147, C164 = 2.65V ?} & {C150, C169 = 1.8V?} & {C149, C165, C168) = 1.2V?}
NO
Resolder or change U104
YES
Check the freq. at C132 : 26MHz ?
NO
Change or resolder OSC100
YES
GSM850/900 Transmitter is O.K?
NO
Resolder or change UCP300
END

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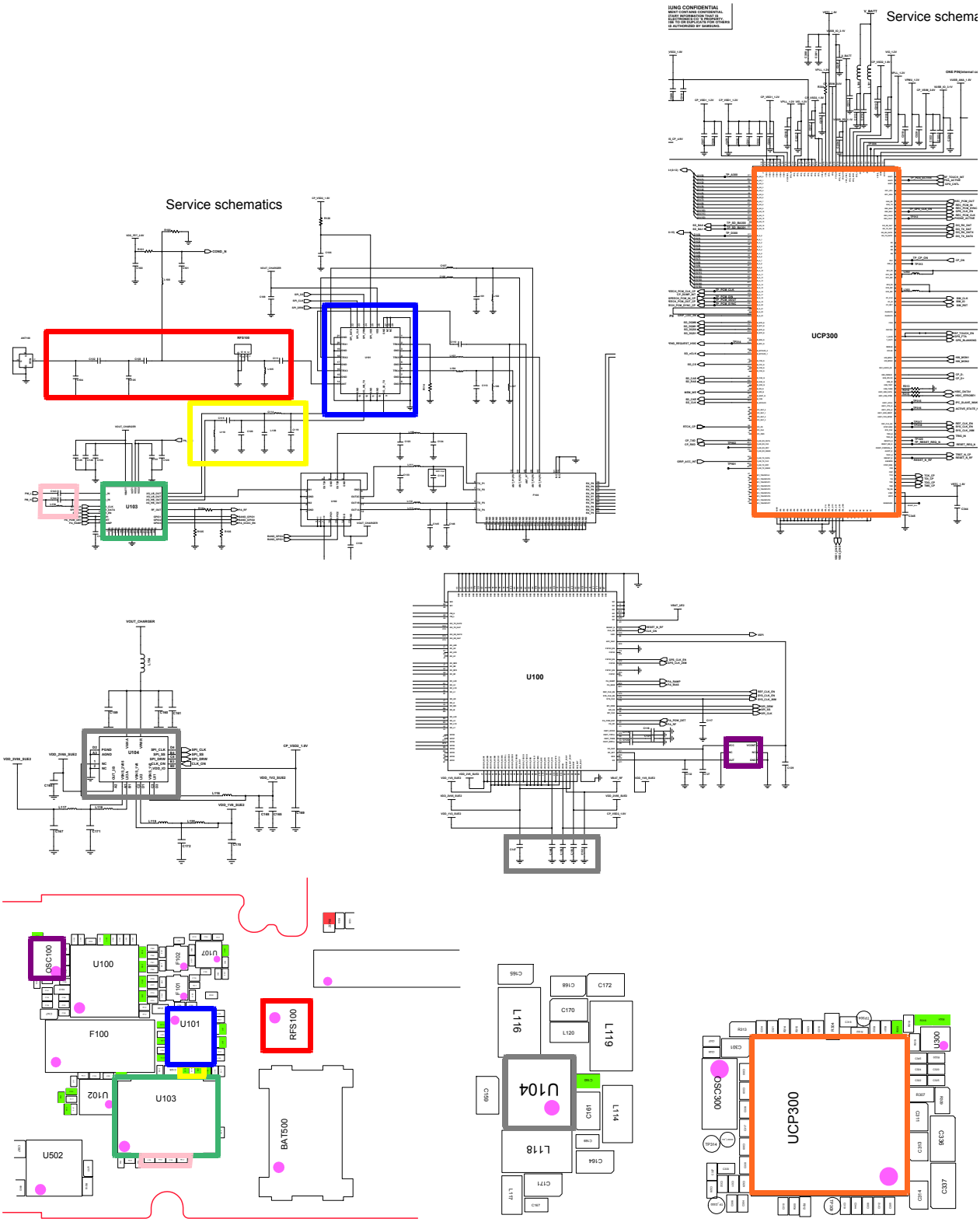

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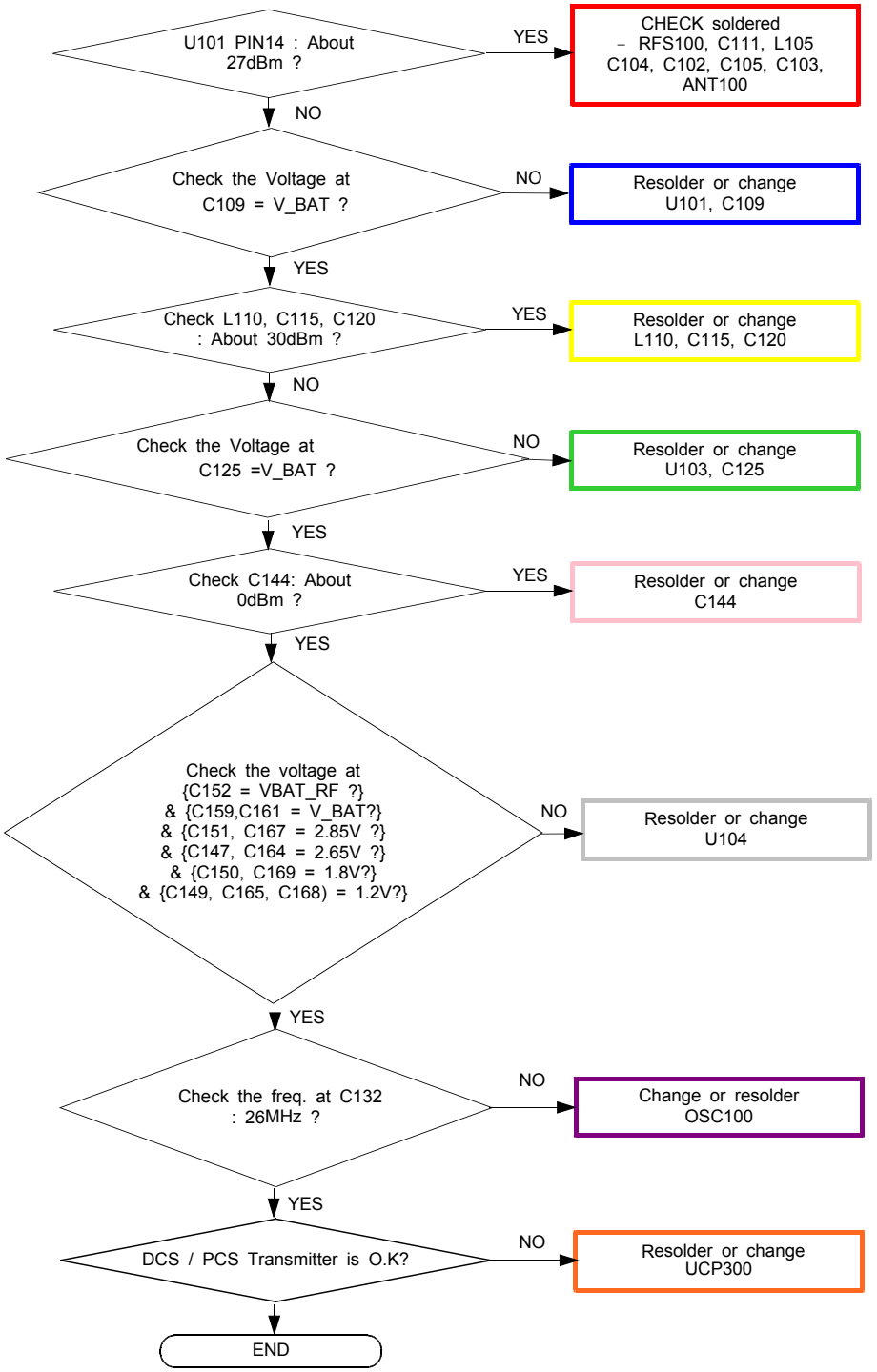
8-3-25. DCS/PCS TX

CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
GSM850 CH : 190
GSM900 CH : 62
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB


U101 PIN14 : About 27dBm ?
YES
CHECK soldered
- RFS100, C111, L105
C104, C102, C105, C103,
ANT100
NO
Check the Voltage at C109 = V_BAT ?
NO
Resolder or change U101, C109
YES
Check L110, C115, C120 : About 30dBm ?
YES
Resolder or change L110, C115, C120
NO
Check the Voltage at C125 =V_BAT ?
NO
Resolder or change U103, C125
YES
Check C144: About 0dBm ?
YES
Resolder or change C144
YES
Check the voltage at {C152 = VBAT_RF ?} & {C159,C161 = V_BAT?} & {C151, C167 = 2.85V ?} & {C147, C164 = 2.65V ?} & {C150, C169 = 1.8V?} & {C149, C165, C168) = 1.2V?}
NO
Resolder or change U104
YES
Check the freq. at C132 : 26MHz ?
NO
Change or resolder OSC100
YES
DCS / PCS Transmitter is O.K?
NO
Resolder or change UCP300
END

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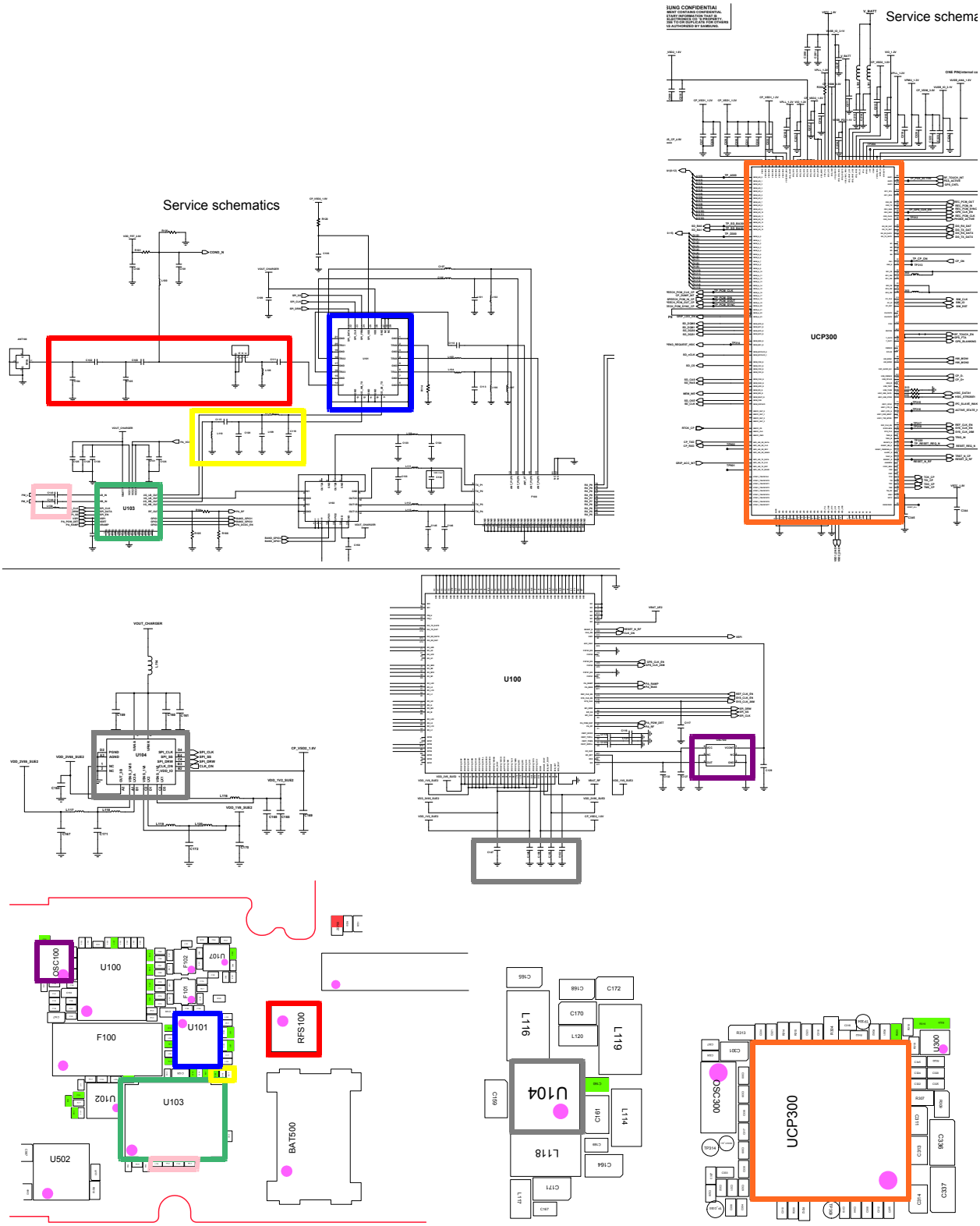

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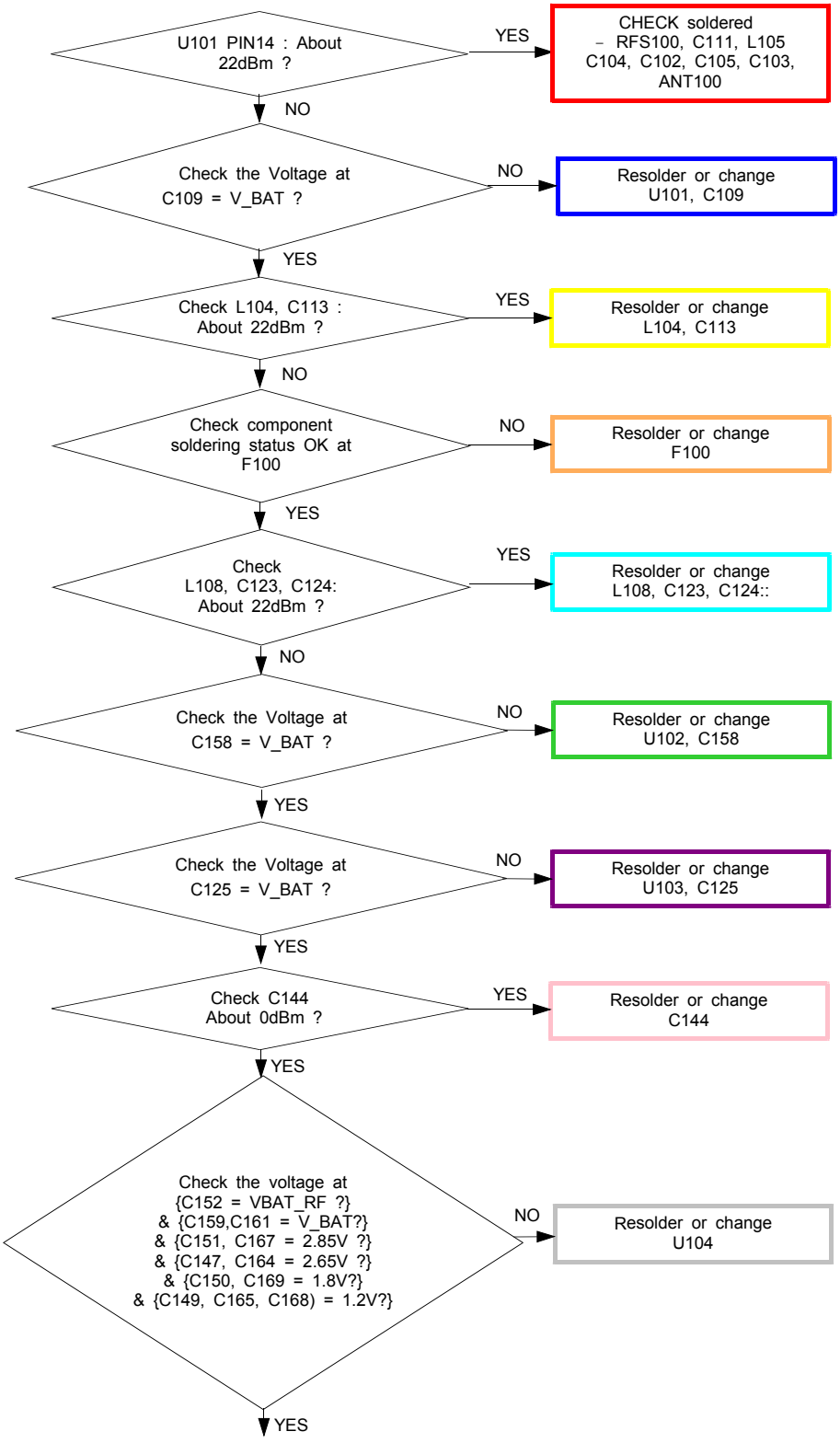
8-3-26. WCDMA BAND1 TX

CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
WCDMA Band1 CH : 10700
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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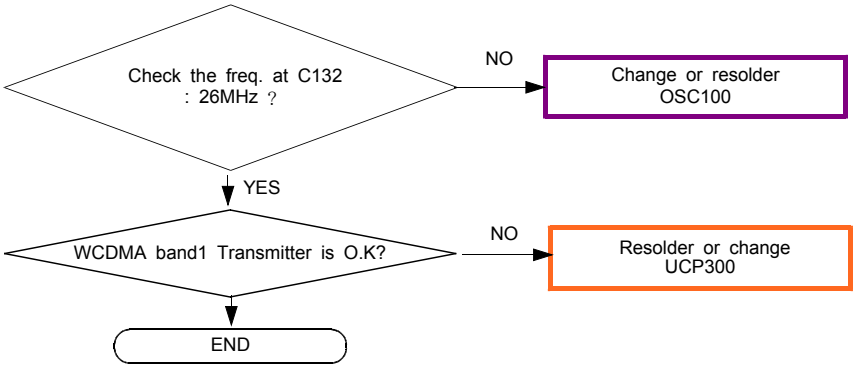

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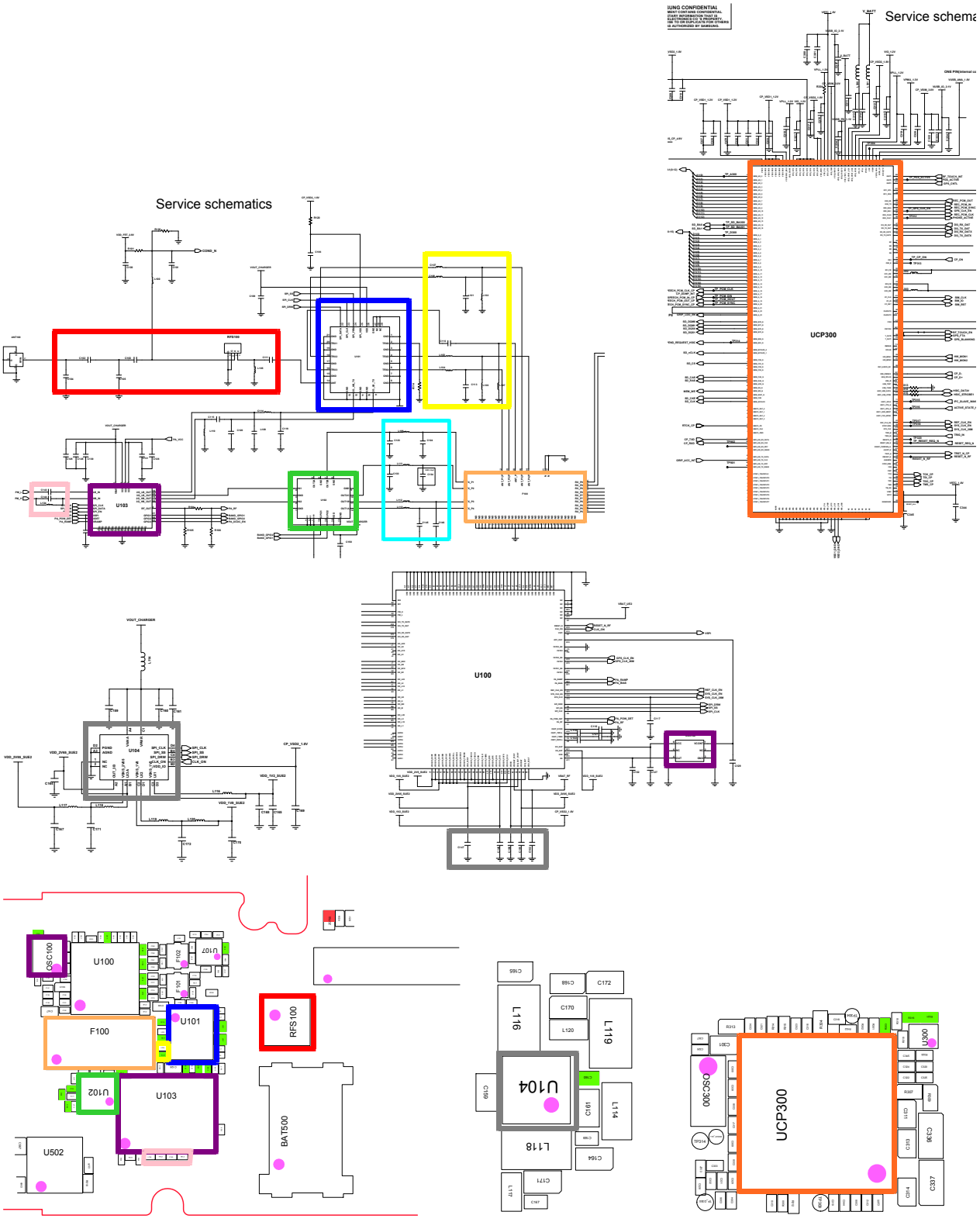

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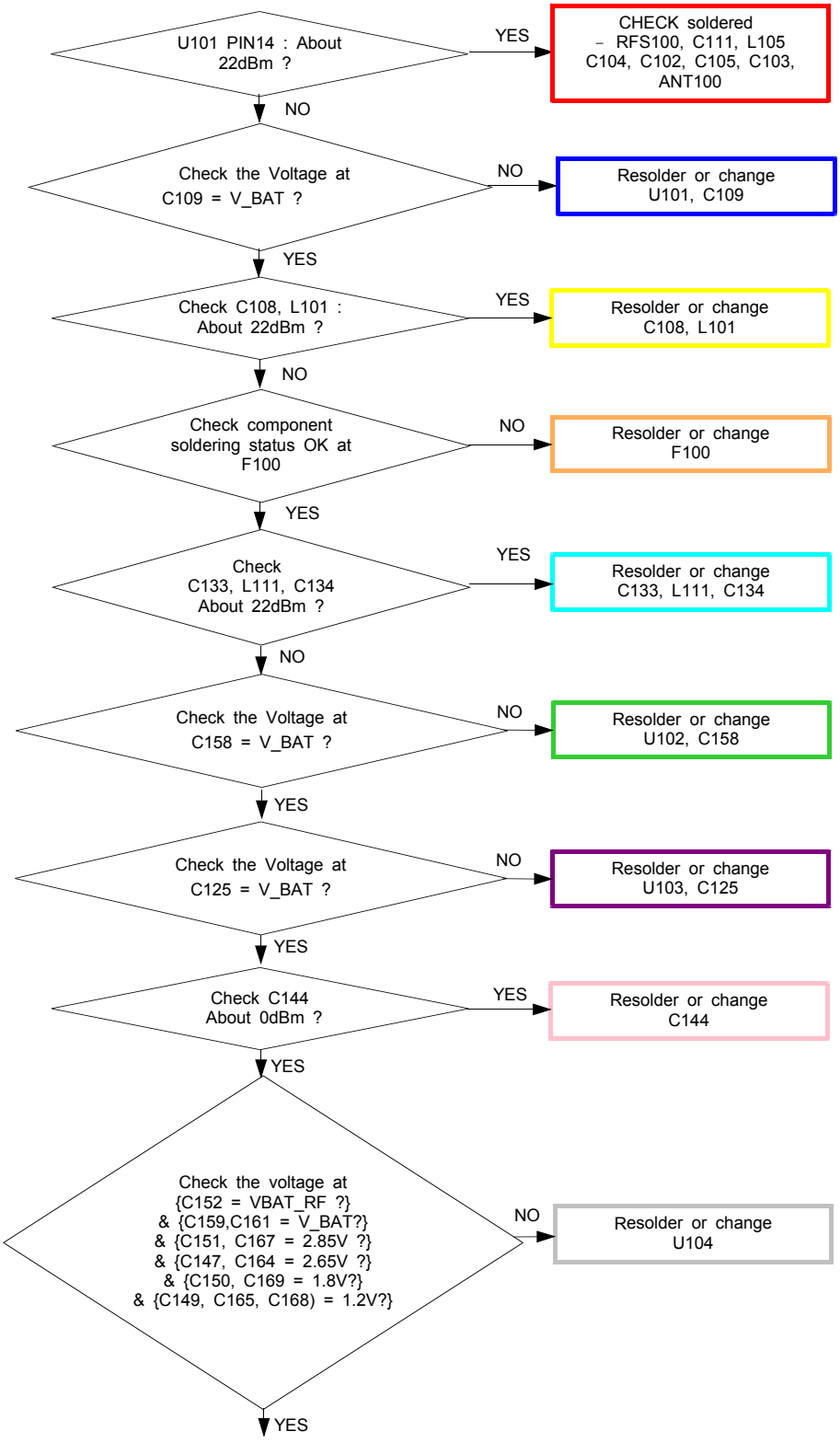
8-3-27. WCDMA BAND2 TX

CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
WCDMA Band2 CH : 9880
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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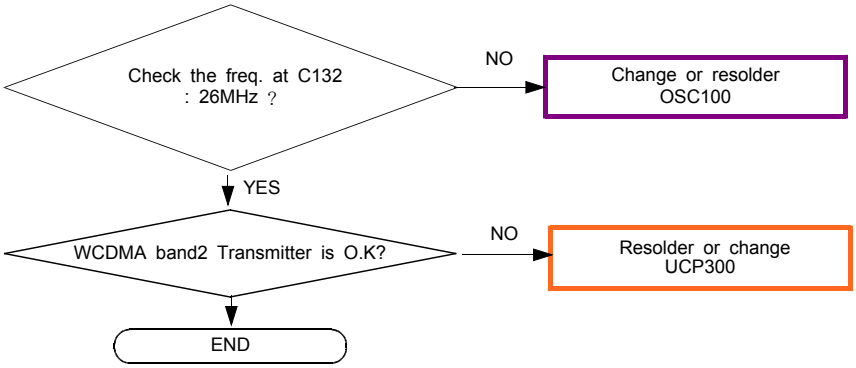

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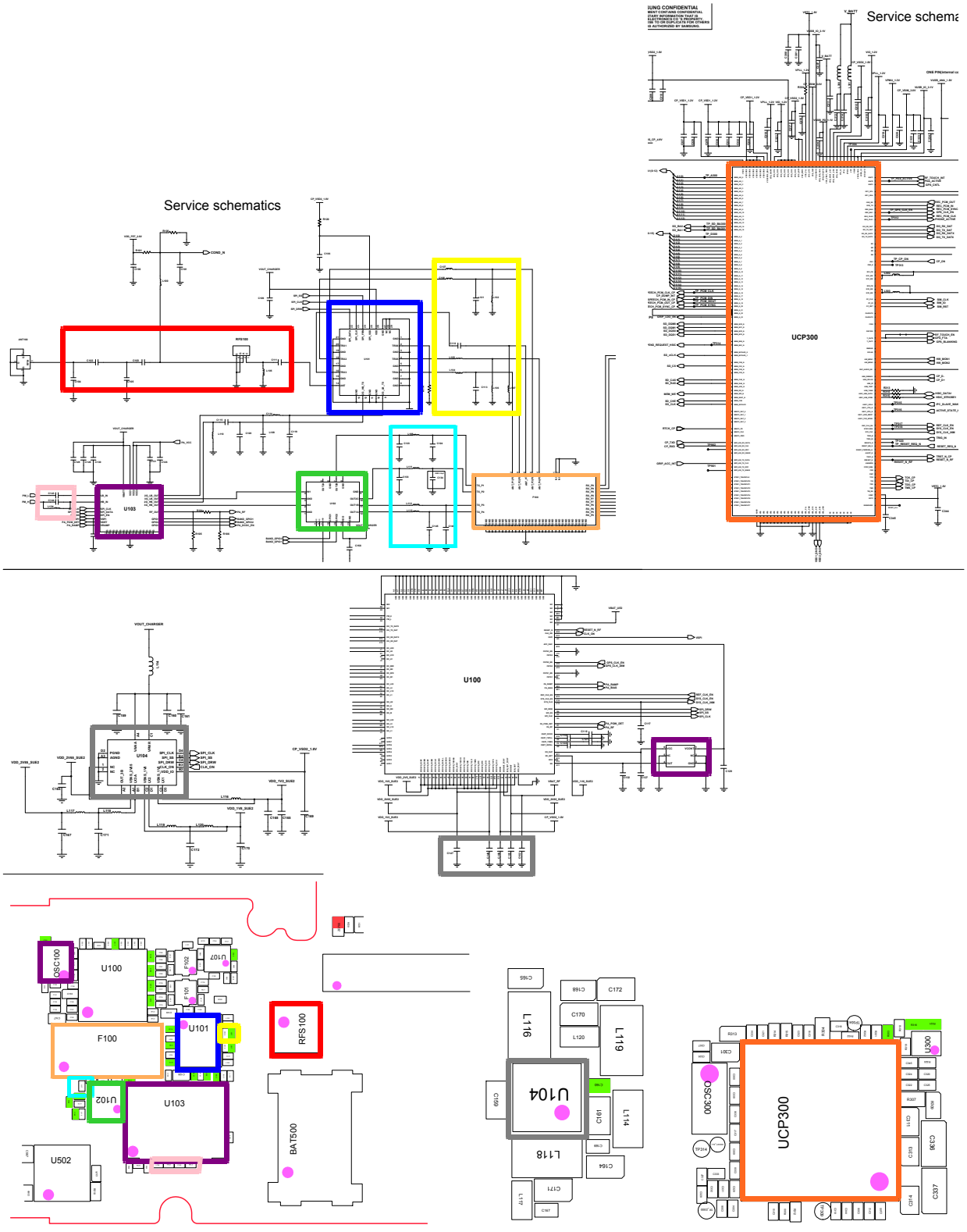

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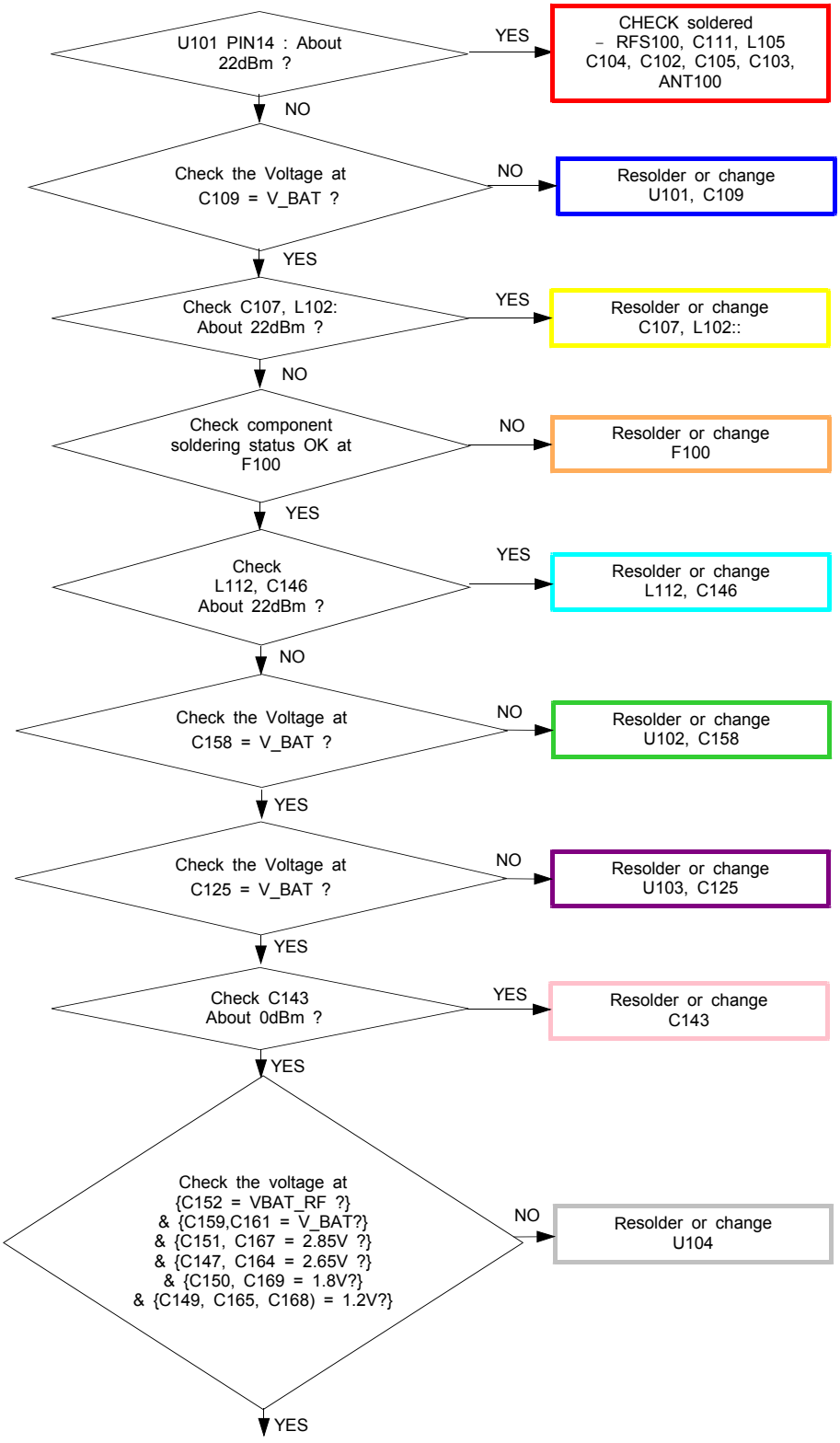
8-3-28. WCDMA BAND5 TX

CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
WCDMA Band5 CH : 4408
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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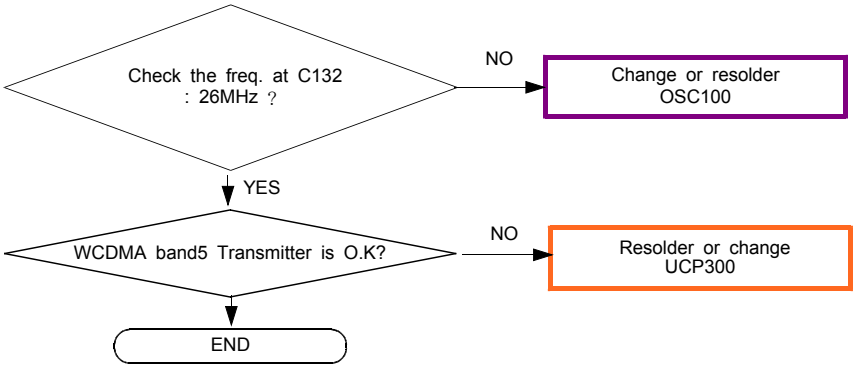

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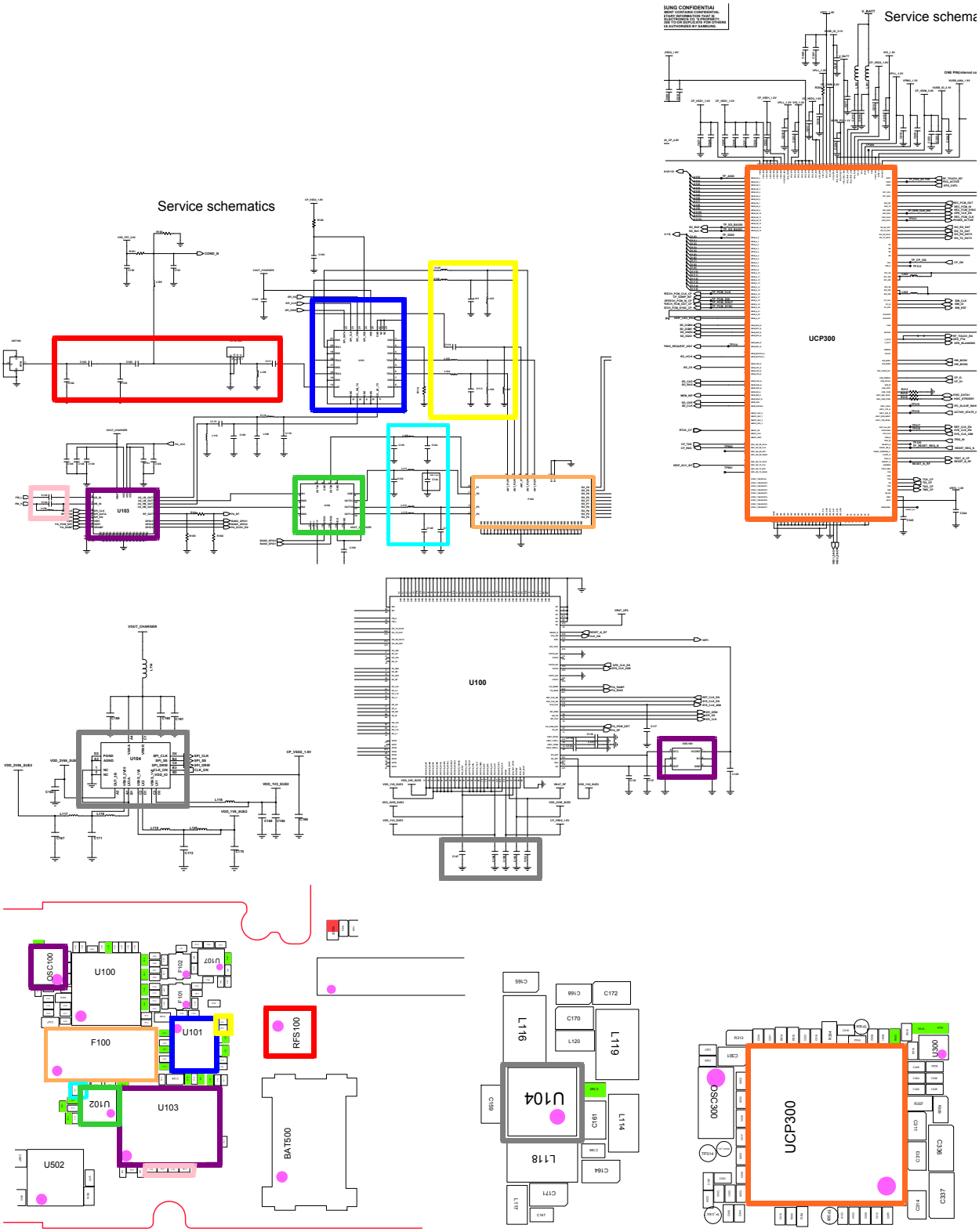

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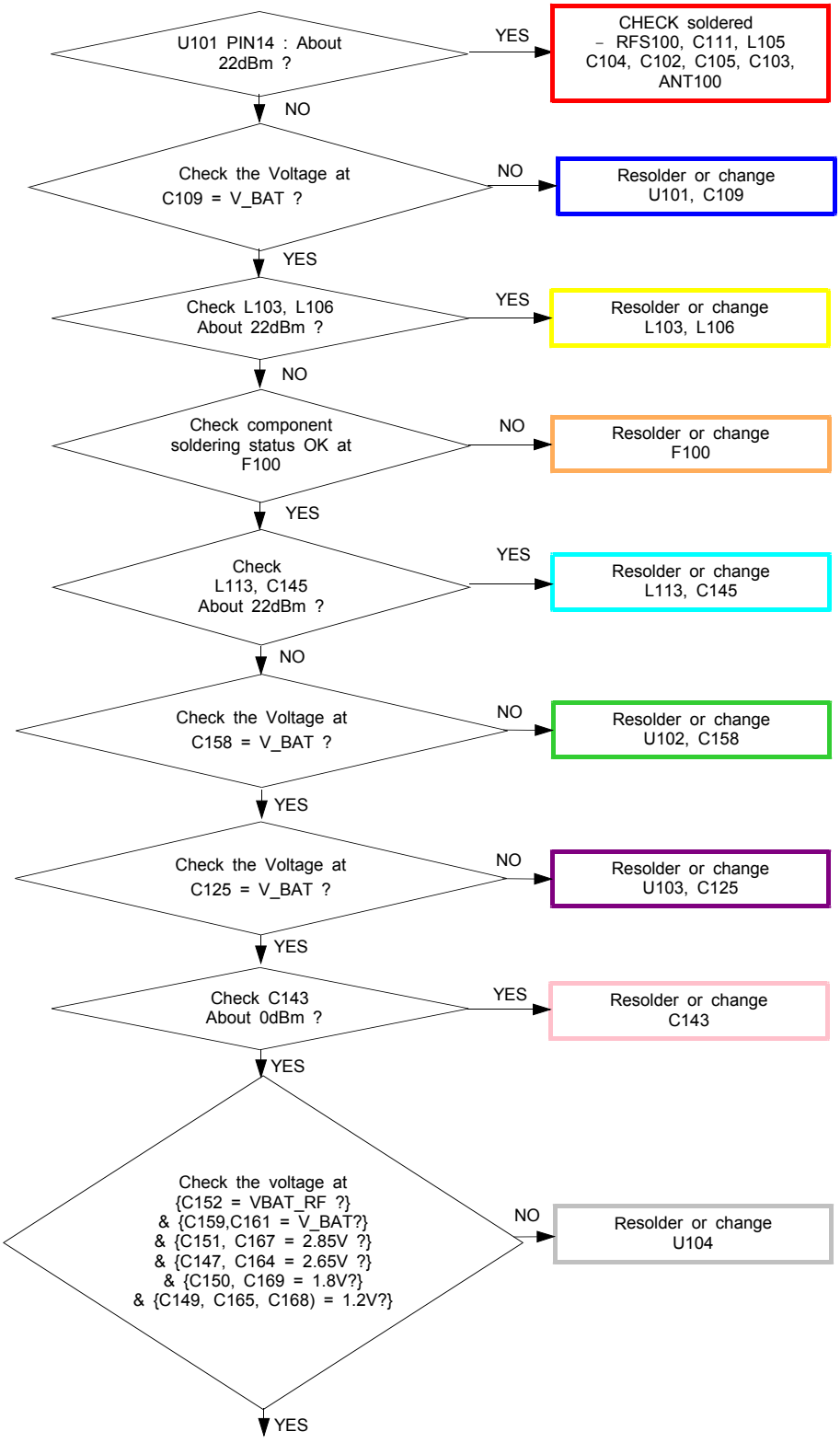
8-3-29. WCDMA BAND8 TX

CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
WCDMA Band2 CH : 3013
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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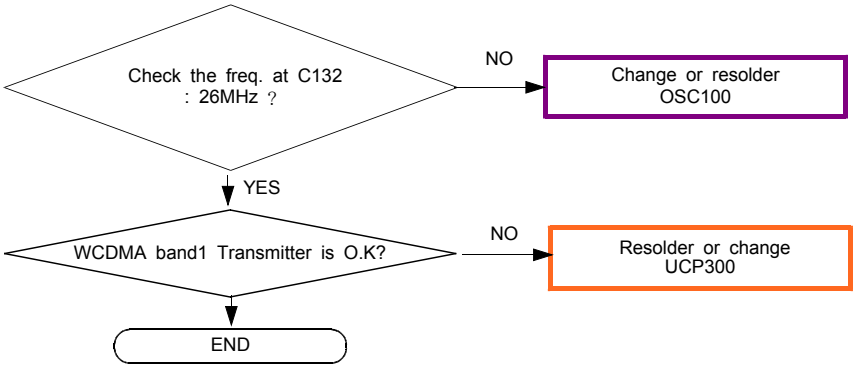

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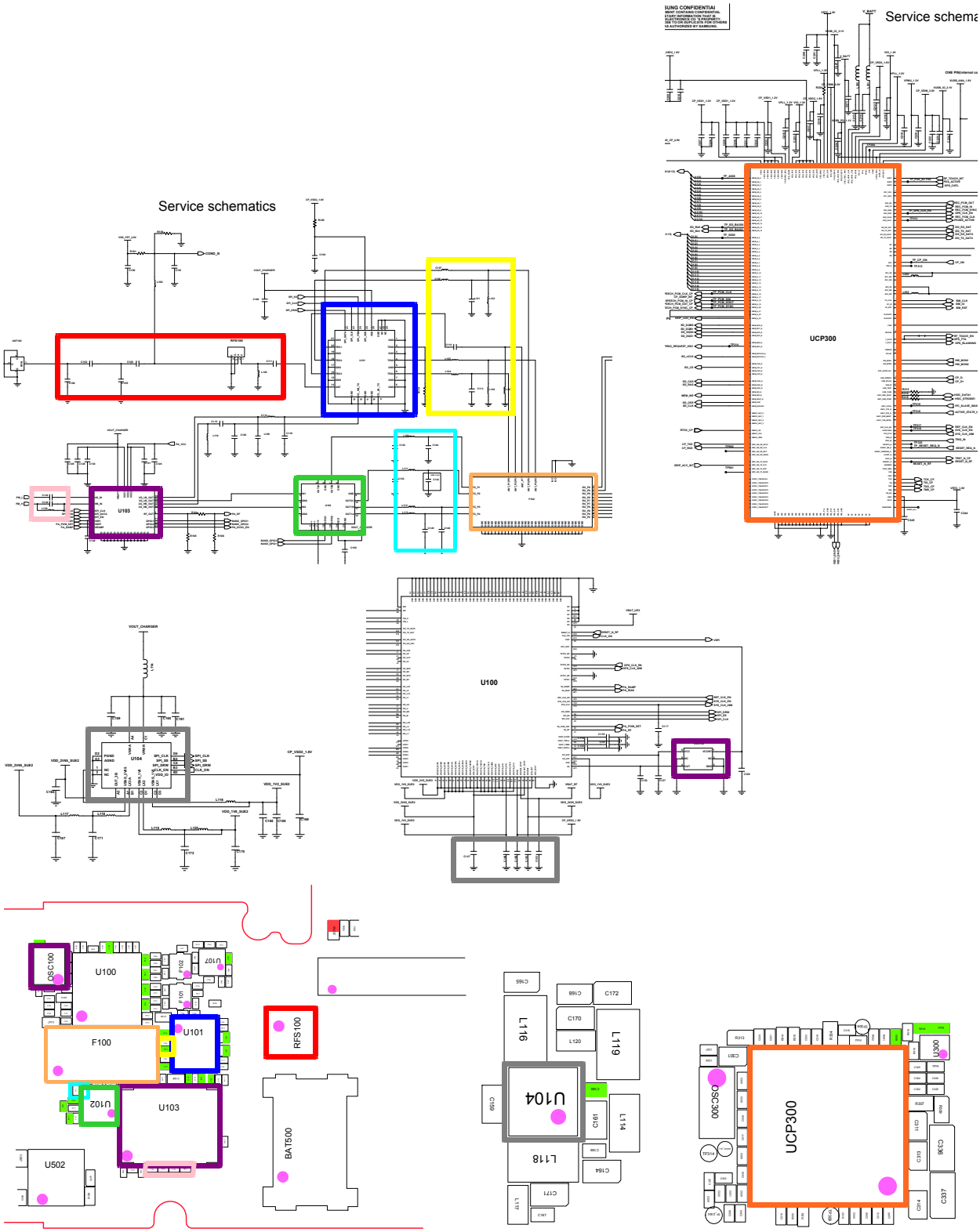

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9. Reference Abbreviate

Reference Abbreviate

—AAC: AdvancedAudioCoding.
—AVC: AdvancedVideoCoding.
—BER: BitErrorRate
—BPSK: BinaryPhaseShiftKeying
—CA: ConditionalAccess
—CDM: CodeDivisionMultiplexing
—C/I: CarriertoInterference
—DMB: DigitalMultimediaBroadcasting
—두: EuropeanStandard
—ES: ElementaryStream
—ETSI: EuropeanTelecommunicationsStandardsInstitute
—MPEG: MovingPictureExpertsGroup
—PN: Pseudo-randomNoise
—PS: PilotSymbol
—QPSK: QuadraturePhaseShiftKeying
—RS: Reed-Solomon
—SI: ServiceInformation
—TDM: TimeDivisionMultiplexing
—TS: TransportStream

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